

Open Research Online

The Open University's repository of research publications and other research outputs

Anticipatory processing in social anxiety

Thesis

How to cite:

Hinrichsen, Hendrik (1999). Anticipatory processing in social anxiety. PhD thesis The Open University.

For guidance on citations see [FAQs](#).

© 1999 The Author



<https://creativecommons.org/licenses/by-nc-nd/4.0/>

Version: Version of Record

Link(s) to article on publisher's website:

<http://dx.doi.org/doi:10.21954/ou.ro.0000d55d>

Copyright and Moral Rights for the articles on this site are retained by the individual authors and/or other copyright owners. For more information on Open Research Online's data [policy](#) on reuse of materials please consult the policies page.

oro.open.ac.uk

*Anticipatory processing
in
social anxiety*

HENDRIK HINRICHSEN

Thesis submitted in partial fulfilment of the degree of

Doctor of Clinical Psychology

The British Psychological Society

Oxford Training Course in Clinical Psychology

Warneford Hospital

Oxford

September 1999

Abstract

Socially anxious individuals often report considerable anticipatory anxiety. A recent cognitive model of social phobia (Clark & Wells, 1995) has suggested that while anticipating a social situation, socially anxious people engage in four biased cognitive processes. First, they recall and dwell on past perceived failures. Second, they construct negative observer-perspective images of how they think they may appear to others. Third, they focus their attention on their bodily sensations and negative thoughts. Finally, they use their observed bodily sensations, negative thoughts and self-constructed images to predict how poorly they will perform in the anticipated social situation. These hypothesised processes were investigated in two studies.

In the first study (Experiment 1), 20 high and 20 low socially anxious individuals were given a semi-structured interview which focussed on their mental processes during periods of anticipatory anxiety. The results of the interview were broadly consistent with the four hypotheses and provided additional data about the nature of functional and dysfunctional anticipatory processing.

In a second study (Experiment 2), the effects of dysfunctional anticipatory processing on levels of social anxiety and confidence were investigated. Twenty high and 20 low socially anxious individuals engaged in either the dysfunctional anticipatory processes identified in study one or a distraction task prior to giving a video-taped speech. The results showed that individuals who engaged in dysfunctional anticipatory processing prior to giving the speech, felt more anxious but not less confident before and during the speech than individuals who had engaged in the distraction task.

The results of the two studies are discussed in relation to the cognitive model of social phobia (Clark & Wells, 1995) and limitations of the experimental designs are highlighted. It is argued that research from worry may provide an explanation for the maintenance of dysfunctional anticipatory processing in socially anxious individuals, and a theoretical approach to the maintenance of dysfunctional anticipatory processing in social anxiety is outlined which integrates the findings from the present study with other research findings. Finally, the implications of the present findings for the treatment of anticipatory social anxiety are discussed, and recommendations for future research are made.

Acknowledgements

I would like to thank my supervisor, Professor David M. Clark, for his unfailing enthusiasm, support, encouragement and guidance throughout this project.

Several people helped to develop the research ideas presented in this dissertation. These are: Haqeeq Bostan, Ann Hackmann, Allison Harvey, Monika Juskiewicz, Warren Mansell, Freda McManus, Julia Muir and Ingo Schäfer.

I am particularly grateful to Dr Melanie Fennell for agreeing to be the independent rater for experiment one, and Ingo Schäfer and Antje Horsch for carrying out the video ratings.

Warren Mansell and Tanja Michael gave invaluable advice on the use of statistics. Gary Trent provided essential practical support during experiment two.

My clinical supervisors, Drs Chris Allen and Neal Marsh, encouraged me to present my research findings on their placements. The resulting discussions and our joint work helped me to broaden my perspective.

Dr Myra Cooper provided helpful advice at different stages of the project and made valuable comments on an earlier draft of the dissertation.

Finally, I would like to thank my family and friends for all their support throughout the last two years while I was involved in this project.

Contents

I. INTRODUCTION	7
1. Social anxiety	9
2. Social phobia	9
2.1. Diagnostic features	10
2.2. Prevalence	11
2.3. Course	11
2.4. Similarities between social anxiety and social phobia	12
2.5. Participant selection in the present study	12
3. The Clark and Wells (1995) cognitive model of social phobia	13
3.1. Empirical support for the cognitive model	16
4. Anticipatory processing in social anxiety and social phobia	16
4.1. Recall and dwelling on past perceived social failures	17
4.2. Construction of negative observer-perspective images of the self	18
4.3. Awareness of bodily sensations and negative thoughts	19
4.4. Use of interoceptive information to predict poor performance	20
4.5. Summary of the main findings from previous research	22
5. Aims of the present study	22
5.1. Experiment one	22
5.2. Experiment two	24
II. EXPERIMENT ONE: The nature of anticipatory processing	26
1. Method	27
1.1. Overview	27
1.2. Participants	27
1.3. Ethical considerations	28
1.3.1. Ethical approval	28
1.3.2. Consent	29
1.3.3. Distress	29
1.4. Procedure: Semi-structured interview	30
1.4.1. Part one: Characteristics of anticipatory anxiety	30
1.4.2. Part two: Characteristics of anticipatory processing	31

2. Results	36
2.1. Data analysis	36
2.2. Part one: General frequency and characteristics of anticipatory anxiety	37
2.3. Part two: Characteristics of anticipatory processing in a recent episode	38
2.3.1. Hypothesis 1.1.	38
2.3.2. Hypothesis 1.2.	40
2.3.3. Hypothesis 1.3.	42
2.3.4. Hypothesis 1.4.	43
2.3.5. Additional findings: Questionnaires	44
2.4. Experiment one: Summary of the main findings	47
III. EXPERIMENT TWO: The effects of dysfunctional processing	50
1. Method	51
1.1. Overview	51
1.2. Design	51
1.3. Participants	52
1.4. Ethical considerations	53
1.4.1. Consent	53
1.4.2. Distress	53
1.5. Apparatus	54
1.5.1. Heart rate monitor	54
1.5.2. Questionnaires and ratings scales	54
1.6. Procedure	55
2. Results	60
2.1. Data analysis	60
2.2. Effects of dysfunctional processing and distraction on anxiety	60
2.2.1. Hypothesis 2.1.a	60
2.2.2. Hypothesis 2.1.b	64
2.2.3. Additional findings: Heart rate	66
2.3. Effects of dysfunctional processing and distraction on confidence	67
2.3.1. Hypothesis 2.2.a	67
2.3.2. Hypothesis 2.2.b	68
2.4. Ratings of speech performance and visibility of anxiety	69
2.4.1. Hypothesis 2.3.	70
2.5. Experiment two: Summary of the main findings	72

IV. DISCUSSION	73
1. <i>Summary and discussion of the main findings</i>	74
1.1. <i>Experiment one</i>	74
1.1.1. <i>Hypothesis 1.1.</i>	75
1.1.2. <i>Hypothesis 1.2.</i>	76
1.1.3. <i>Hypothesis 1.3.</i>	77
1.1.4. <i>Hypothesis 1.4.</i>	78
1.2. <i>Experiment two</i>	79
1.2.1. <i>Hypothesis 2.1.</i>	79
1.2.2. <i>Hypothesis 2.2.</i>	80
1.2.3. <i>High vs. low FNE individuals</i>	81
2. <i>Limitations of the present study</i>	81
3. <i>What maintains dysfunctional anticipatory processing?</i>	83
3.1. <i>Reduction of somatic and emotional responses</i>	84
3.2. <i>Avoidance and preparation for feared future events</i>	85
3.3. <i>Inhibition of emotional processing</i>	86
3.4. <i>Summary of findings from research on worry</i>	87
4. <i>A cognitive approach to the maintenance of dysfunctional processing</i>	87
5. <i>Implications for treatment</i>	88
5.1. <i>Transforming the meaning of memories</i>	89
5.2. <i>Challenging the effectiveness of dysfunctional processing</i>	90
5.3. <i>Challenging the perceived long-term consequences of failure</i>	91
5.4. <i>Facilitating the emotional processing of social events</i>	92
6. <i>Recommendations for future research</i>	94
V. REFERENCES	95
VI. APPENDICES	100

I. INTRODUCTION

Social phobia is a common and disabling anxiety disorder which often leads sufferers to underperform at work and makes it difficult for them to make and maintain close relationships. Although current treatments for the disorder are effective on average only 40 per cent of patients fully recover (see Heimberg & Juster, 1995, for a review). Controlled trials have shown that existing psychological approaches for the condition are only partly effective (e.g. Butler, Cullington, Munby et al., 1984). The leading psychological treatment approaches are group cognitive behaviour therapy and exposure therapy (Heimberg & Juster, 1995). In an attempt to improve the effectiveness of psychological treatment, Clark and Wells (1995) have recently developed a model of the processes involved in the maintenance of social anxiety and social phobia and have developed a specialised cognitive treatment which aims to reverse these maintaining processes. Preliminary data from a series of 15 social phobic patients suggests that the new treatment is about twice as effective as existing treatments (Clark, 1999).

Anticipatory anxiety is very common in social phobics. Patients frequently report that the anticipation of a feared social interaction is worse than the interaction itself (Eckman & Shean, 1997). However, thus far little is known about the psychological processes involved in anticipatory social anxiety, although it is a component of the Clark and Wells (1995) model and it is addressed in treatment (Clark, 1997).

1. SOCIAL ANXIETY

Social anxiety denotes a fear of negative evaluation by others, which is the concern that other people will think the socially anxious person is inferior in some way (Beck, Emery & Greenberg, 1985). It can be provoked by a wide range of situations. These include public speaking, meeting people in authority, attending social gatherings, speaking to strangers or meeting new people, and eating and writing in front of others. In everyday language terms, the experience of anxiety in these situations is often described as shyness, worry or embarrassment.

Several studies have shown that social anxiety is common in the general population. In a telephone survey, Stein, Walker and Forde (1994) found that 33 per cent of their respondents reported being significantly “more nervous than other people” in at least one type of social situation. The most commonly feared social situation was public speaking. In an earlier study of 223 Oxford undergraduates, Bryant and Trower (1974) found that about 10 per cent held strong negative irrational beliefs about speaking in public. General shyness also seems common. Findings by Zimbardo (1977) suggest that between 20 and 40 per cent of people in the general population are shy.

2. SOCIAL PHOBIA

Although social phobia, the clinical manifestation of social anxiety, has been recognised for many years, it was not until the advent of the *Diagnostic and*

Statistical Manual of Mental Disorders (DSM-III; APA, 1980) that it was recognised as a specific syndrome. The term 'social phobia' was coined by Marks and Gelder (1966), who observed that the age of onset in social anxiety tended to be different from other anxiety disorders, and their observation helped to establish social phobia as a separate disorder. Since 1980, the DSM has undergone two revisions (APA, 1987; 1994), during which the essential features of the disorder have been defined more and more clearly.

2.1. Diagnostic features

According to the most recent DSM (DSM-IV; APA, 1994), the essential feature of social phobia is a marked and persistent fear of social or performance situations, which is related to the individual's belief that he or she will act in a way which will be humiliating or embarrassing, or that will lead others to judge them as anxious, weak, crazy or stupid. For the diagnosis to be made the social or performance situation must almost always provoke immediate anxiety on exposure to the situation, and the fear must interfere significantly with the person's daily routine, or his or her occupational or social functioning. Sufferers avoid social and/or performance situations whenever possible or otherwise endure them with extreme discomfort. Panic attacks in anticipation of, or on exposure to social situations may occur. DSM-IV specifies two subtypes of social phobia. The generalised subtype denotes fear of most social and performance situations, the specific subtype describes fear of a limited range of social situations, which are frequently specific performance situations such as public speaking or writing in public.

2.2. Prevalence

Although it has been suggested that only about two per cent of individuals experience enough impairment and distress to warrant a diagnosis of social phobia (DSM-IV; APA, 1994), recent findings by Kessler, McGonagle, Zhao et al., (1994) suggest that the overall lifetime prevalence rate of social phobia is considerably higher. In a preliminary article from the National Comorbidity Survey (NCS), they report a prevalence rate of 13.3 per cent. Other recent findings have supported the view that the prevalence of social phobia in the general population may lie somewhere between seven and 16 per cent (Stein et al., 1994; Wacker, Müllejans, Klein & Battegay, 1992). In a recent review, Chapman, Mannuzza and Fyer (1995) conclude that social phobia may affect upward of 10 per cent of the population and may therefore be among the most prevalent of all psychiatric disorders in the general population.

2.3. Course

In the absence of treatment or major life changes, social anxiety can be persistent. Retrospective studies of social phobia suggest that in a majority of cases the disorder has a static course (Solyom, Ledwidge & Solyom, 1986) and a lifelong duration which may fluctuate with life stressors and demands (DSM-IV; APA, 1994).

2.4. Similarities between social anxiety and social phobia

Several self-report measures have been designed for the assessment of levels of social anxiety. Two examples of these are the Fear of Negative Evaluation Scale (FNE; Watson & Friend, 1969), and the Social Phobia and Anxiety Inventory (SPAI; Turner, Beidel, Dancu & Stanley, 1989). Scores on these questionnaires are normally distributed, indicating that most people experience some degree of social anxiety in certain situations. Individuals who score highly on self-report measures of social anxiety are often similar to social phobics in their cognitive style, behaviour and physiological responses, and currently, the only reliable way to distinguish high socially anxious individuals from individuals with a diagnosis of social phobia is to evaluate the extent to which the symptoms interfere with their daily lives (DSM-IV; APA, 1994).

2.5. Participant selection in the present study

Because of the close similarity between social anxiety and social phobia, and the relative difficulty of obtaining large numbers of socially phobic clients, the research in the current dissertation used participants from the general population with high or low levels of social anxiety. To divide participants into these two groups, the Fear of Negative Evaluation Scale (FNE; Watson & Friend, 1969) was used. Research findings suggest that the FNE scale measures an important and unique construct underlying both social anxiety and social phobia. For example, various studies have

found that the FNE scale differentiates social phobics from non-patient controls (Rapee & Lim, 1992; Rapee, McCallum, Melville et al., 1994; Asmundson & Stein, 1994; Woody, Chambless & Glass, 1997), patients with other anxiety disorders (Stopa & Clark, 1993) and patients diagnosed with panic disorder (Ball, Otto, Pollack et al., 1995). The effectiveness of the FNE in measuring a core aspect of social phobia has also been supported by a number of treatment studies (e.g. Mattick & Peters, 1988; Mattick, Peters & Clarke, 1989; Hope, Heimberg & Bruch, 1990). These studies have found that the strongest predictor of improvement in treatment for social phobia on a number of different outcome measures was a drop in FNE score.

3. THE CLARK AND WELLS (1995) COGNITIVE MODEL OF SOCIAL PHOBIA

A cognitive model of the factors involved in the maintenance of social phobia has recently been outlined by Clark and Wells (1995). Figure 1 summarises the processes which this model assumes to occur when a social phobic enters a feared social situation. It is suggested that on the basis of early experience, social phobics have developed a variety of assumptions about themselves and social situations which lead them to appraise normal social situations as a sign of danger. This danger appraisal activates an anxiety programme, with three interlinked components. The first component are the somatic and cognitive symptoms of anxiety (e.g. blushing, trembling, racing heart, difficulty concentrating, mental blanks). These are triggered by the perception of danger, and can become a further source of perceived danger and anxiety (e.g. palpitations are interpreted as a sign of impending loss of control) and

thereby keep the anxiety going. Secondly, the safety behaviours that socially anxious individuals engage in to prevent a feared social catastrophe from happening (e.g. talking quickly, avoiding eye contact) not only prevent the disconfirmation of their unrealistic beliefs regarding the negative evaluation by others, but frequently also increase somatic and cognitive symptoms (e.g. talking quickly can lead to hyperventilation which leads to further palpitations). The third and crucial component of the model is a shift towards self-focussed attention. Clark and Wells suggest that when in danger of being negatively evaluated, social phobics shift their attention to the detailed observation and monitoring of themselves. They then use the information produced by detailed self-monitoring to infer what other people notice and think about them.

Clark and Wells (1995) argue that social phobics' distress is not restricted to times when they are in a social situation, but they also experience considerable anxiety when anticipating a social event, and they are also likely to experience a range of negative emotions after the event. As part of their cognitive model, Clark and Wells have outlined a series of cognitive processes which they believe to occur before and after social interactions. For example, they assume that, prior to entering a feared situation, social phobics review in detail what might happen in the situation, and that, as they become more anxious, their thoughts are dominated by recollections of past failures. Shortly after leaving a social event, they are assumed to conduct a 'post-mortem', in which they carry out a detailed review of the social interaction, which is dominated by their anxious feelings and negative self-perceptions.

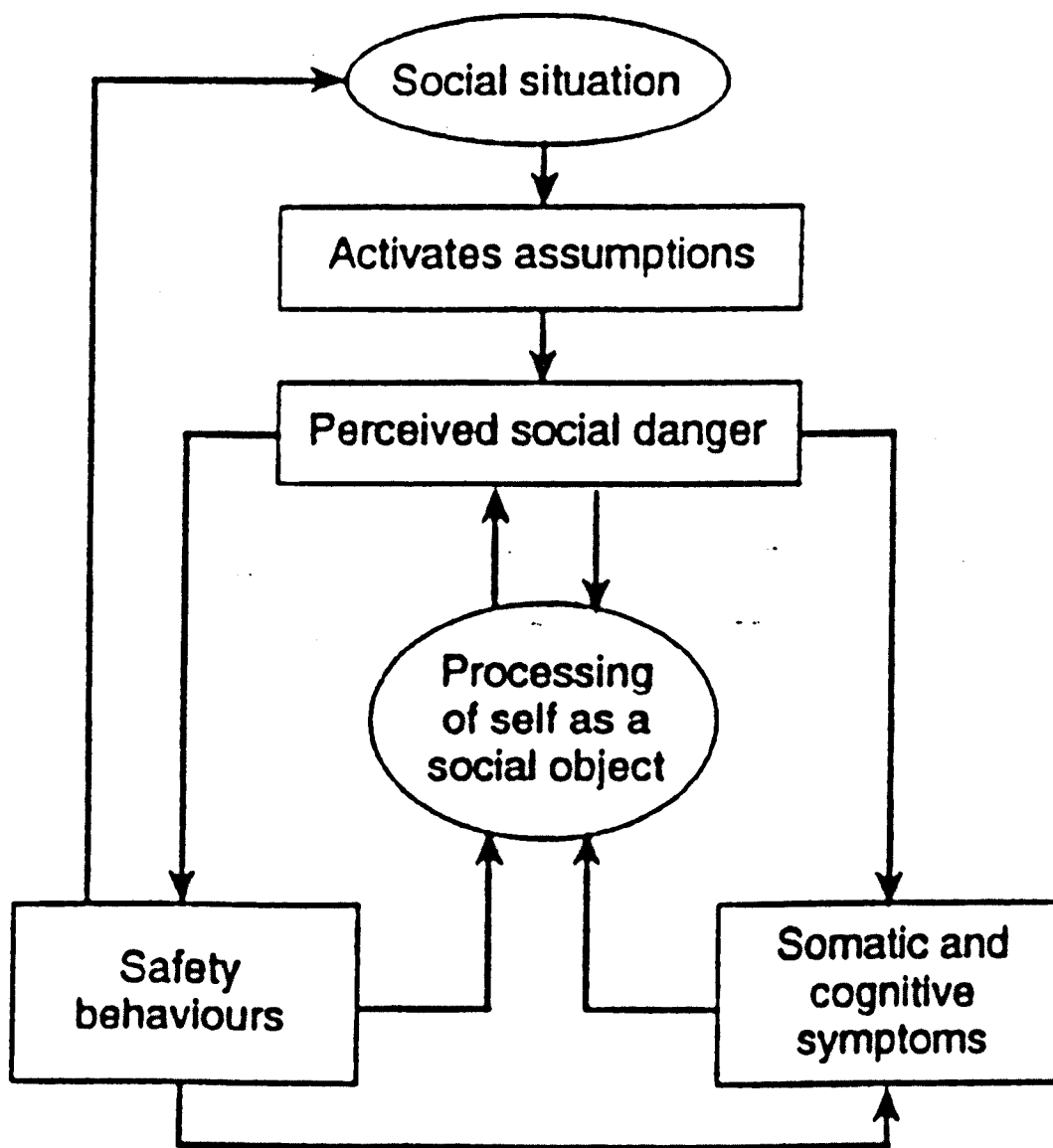


Figure 1. The cognitive model of social phobia (Clark & Wells, 1995)

3.1. Empirical support for the cognitive model

Support for the cognitive approach to social phobia comes from various recent studies, which have tested the key components of the model. For example, Stopa and Clark (in press) found evidence consistent with the hypothesis that social phobics interpret social situations in a more threatening fashion than non-social phobics. A study by Wells, Clark, Salkovskis et al. (1995) provided support for the hypothesis that in-situation safety behaviours play a significant role in the maintenance of social phobia, and Mansell and Clark (1999) have recently shown that social phobics' estimates of the dangerousness of social situations may be partly based on the perception of their own emotional response. The results from these and other recent studies have provided preliminary support for the cognitive processes thought to occur during social situations. However, so far very few studies have investigated the cognitive processes which Clark and Wells (1995) assume to occur before and after social interactions, and how these processes may contribute to the maintenance of social anxiety and social phobia. The current study attempted to address this lack of knowledge.

4. ANTICIPATORY PROCESSING IN SOCIAL ANXIETY AND SOCIAL PHOBIA

Based on the cognitive model and their clinical observations, Clark and Wells (1995) have suggested that, while anticipating a social interaction, socially anxious individuals engage in four biased cognitive processes: First, they retrieve and dwell

on memories of past perceived social failures. Second, they construct negative observer-perspective images of how they think they will appear to others. Third, they shift their attention to the detailed observation of their bodily sensations and negative thoughts. Finally, they use their observed bodily sensation, negative thoughts and self-constructed images to predict how poorly they will perform in the anticipated situation.

The current study attempted to test these hypotheses. Preliminary evidence in support of each of the hypothesised cognitive processes will be considered in turn.

4.1. Recall and dwelling on past perceived social failures

Clark and Wells' (1995) cognitive model of social phobia suggests that, while anticipating a social-evaluative situation, socially anxious individuals tend to recall memories of past perceived failures and, on that basis, make predictions of poor future performance. As a result, they often enter the anticipated situation in a highly self-focussed and distressed state, or end up avoiding the situation altogether. They expect to perform poorly and to be negatively evaluated by others.

Evidence that socially anxious individuals may retrieve negative information when anticipating a social interaction comes from a recent study by Mansell and Clark (1999). They asked high and low socially anxious individuals to encode positive and negative trait words in one of three ways: public self-referent, private self-referent or other self-referent. Mansell and Clark found that while anticipating a feared social

event (having to give a speech), high socially anxious individuals tended to recall significantly less positive public self-referent encoded words (words referring to how one appears to others) and (non-significantly) more negative public self-referent words than low socially anxious individuals. This bias in the recall of emotional information only occurred when individuals anticipated having to give a speech, which suggests that the bias occurred at retrieval, rather than encoding.

The present study aimed to investigate whether high socially anxious individuals would report recalling memories of past perceived social failures while anticipating social-evaluative situations.

4.2. Construction of negative observer-perspective images of the self

Another key component of the cognitive model is the idea that socially anxious individuals use information obtained through the detailed self-monitoring of bodily reactions and negative thoughts to construct an image or impression of themselves which they (wrongly) assume reflects how they will look to other people and what others will notice and think about them.

A recent study by Hackmann, Surawy and Clark (1998) has provided evidence suggesting that social phobics may experience negative observer-perspective images during a social interaction. The authors looked at spontaneously occurring visual and other sensory images and impressions, and tried to assess their emotional tone and degree of distortion. They found that social phobics were significantly more likely

than non-patient controls to report experiencing images when they were anxious in social situations. The emotional tone of clients' images was significantly more negative than those of non-client controls and their images were more likely to involve seeing oneself from an observer's point of view. In a follow-up study, Hackmann and Clark (in preparation) found that social phobics' images and impressions were often recurrent and linked to particular memories which were generally negative and frequently involved being criticised or ridiculed by others.

The current study aimed to investigate the occurrence and nature of images and impressions experienced in anticipation of social-evaluative situations. Additionally, it was aimed to explore whether these images were recurrent, negative in emotional tone and could be linked to particular memories, in a similar way to images and impressions experienced by social phobics during social situations.

4.3. Awareness of bodily sensations and negative thoughts

Clark and Wells' (1995) cognitive model of social phobia suggests that when socially anxious individuals become concerned that they may fail to make their desired impression on others, their attention shifts to the detailed monitoring and observation of their bodily sensations and negative thoughts.

Preliminary evidence in support of this hypothesis comes from findings showing that high socially anxious individuals show reduced awareness (Clark, Mansell, Chen & Ehlers, in preparation) and poorer memory for the details of a recent social interaction

(Daly, Vangelisti & Lawrence, 1989; Hope, Heimberg & Klein, 1990) compared to low socially anxious individuals. A recent study by Mansell, Clark and Ehlers (in preparation) found direct evidence that, while anticipating a social-evaluative situation, socially anxious individuals may pay greater attention to internal than external cues. In this study, high and low socially anxious participants were instructed to react as fast as they could to two possible types of signals: tactile cues which they were told indicated changes in their nervous activity (internal cues), and visual probes which were superimposed on images of other people's facial expressions (external cues). The authors found that, while expecting to make a video-recorded speech, high socially anxious individuals showed a bias to attend to internal relative to external cues when compared to low socially anxious individuals.

The present study aimed to provide further support for a shift of attention by investigating whether high socially anxious individuals would report an enhanced awareness of their bodily sensations and negative thoughts while anticipating a social event.

4.4. Use of bodily sensations, negative thoughts and self-constructed images to predict poor performance

While being in a social situation, high socially anxious individuals often tend to overestimate how anxious they appear to others (e.g. Rapee & Lim, 1992). Clark and Wells (1995) have suggested that this overestimation arises because social anxious individuals use interoceptive information produced by the detailed self-monitoring of

their bodily reactions, negative thoughts and self-constructed images to infer how anxious they appear to other people, and what others think of them.

So far, three studies have provided evidence suggesting that increased awareness of their somatic anxiety reactions may lead high socially anxious individuals to overestimate how anxious they appear to others and underestimate how well they come across while in a social-evaluative situation (McEwan & Devins, 1983; Papageorgiou & Wells, 1997; Mansell & Clark, 1999). McEwan and Devins (1983) found that high and low socially anxious individuals who did not experience intense somatic sensations in social situations were accurate in their estimates of the visibility of anxiety. By contrast, high socially anxious individuals who reported that they generally experienced intense somatic sensations in social situations, tended to overestimate how anxious they appeared to others. Papageorgiou and Wells (1997) found that when high socially anxious individuals were told shortly before a social-evaluative conversation that their heart rate was increasing, they later underestimated how well they came across to another person. By contrast, low socially anxious individuals did not show this effect. In another recent study, Mansell and Clark (1999) showed that enhanced awareness of bodily sensations induced by physical exercise led high but not low socially anxious individuals to rate their appearance during a speech more negatively. The authors also found that the more bodily sensations high socially anxious individuals noticed, the more they overestimated how anxious they looked to others and how observable their negative behaviours were, and the more they tended to underestimate their global positive behaviours (e.g. looking confident).

The current study attempted to investigate whether socially anxious individuals use the bodily reactions, negative thoughts and self-constructed images experienced in anticipation of social-evaluative situations to predict how they would perform during the anticipated situation.

4.5. Summary of the main findings from previous research

Findings from previous studies have provided some preliminary support for the four hypothesised anticipatory processes outlined by Clark and Wells (1995). These findings suggest that high socially anxious individuals (1) retrieve negative information when anticipating feared social events, (2) experience negative observer-perspective images during social interactions, (3) pay greater attention to internal than external cues while anticipating social evaluative situations, and (4) tend to overestimate how well they come across to others if awareness of their somatic symptoms of anxiety is increased.

5. AIMS OF THE PRESENT STUDY

5.1. Experiment 1

The aim of Experiment 1 was to investigate whether socially anxious individuals report engaging in the hypothesised anticipatory processes outlined by Clark and Wells (1995). This was explored using a semi-structured interview. The research

questions were: (1) Do socially anxious people report recalling past perceived social failures? (2) Do they construct negative observer-perspective images of how they think they may appear to others? (3) Do they report an awareness of their bodily reactions and negative thoughts? and (4) Do they perceive their bodily reactions, negative thoughts and self-constructed images as increasing their anticipatory anxiety and reducing their confidence that they will be able to make a good impression?

The following predictions were tested:

Hypothesis 1.1. While anticipating a social-evaluative situation, high socially anxious individuals will report a greater tendency to recall memories of past perceived social failures than low socially anxious individuals.

Hypothesis 1.2. While anticipating a social-evaluative situation, high socially anxious individuals will be more likely than low socially anxious individuals to report experiencing spontaneous images or impressions. High socially anxious individuals' images/impressions will be more negative in emotional tone and more likely to involve seeing the self from an observer's point of view than those of low socially anxious individuals.

Hypothesis 1.3. While anticipating a social-evaluative situation, high socially anxious individuals will report a greater awareness of their bodily sensations and negative thoughts than low socially anxious individuals. They will view their bodily sensations and bodily reactions as more negative than low socially anxious individuals.

Hypothesis 1.4. While anticipating a social-evaluative situation, high socially anxious individuals, will report a greater tendency to perceive their bodily sensations, negative thoughts and self-constructed images as having increased their anxiety and decreased their confidence that they would be able to make a good impression.

5.2. Experiment 2

The second experiment aimed to investigate the effect of engaging in the anticipatory processes used by high socially anxious individuals on levels of anxiety and confidence before and during a feared social situation. The research questions were as follows: (1) Do participants who engage in dysfunctional anticipatory processing prior to entering a feared social situation become more anxious and less confident about making a good impression than participants who engage in a distraction task? (2) Do participants who engage in dysfunctional anticipatory processing prior to entering a feared social situation (a) underestimate their speech performance, and (b) overestimate the visibility of their anxiety, relative to external observer ratings?

The following predictions were tested:

Hypothesis 2.1. Individuals who engage in dysfunctional anticipatory processing before giving the speech, will feel more anxious shortly before and during the speech than individuals who engage in a distraction task.

Hypothesis 2.2. Individuals who engage in dysfunctional anticipatory processing before giving the speech, will feel less confident about making a good impression shortly before and during the speech than individuals who engage in a distraction task.

Hypothesis 2.3. Relative to external observers, individuals who engage in dysfunctional anticipatory processing before giving the speech will underestimate their speech performance more than individuals who engage in a distraction task

Hypothesis 2.4. Relative to external observers, individuals who engage in dysfunctional anticipatory processing before giving the speech will overestimate the visibility of their anxiety during the speech more than individuals who engage in a distraction task

II. EXPERIMENT 1:

***The nature of anticipatory
processing in social anxiety***

I. Method

1.1. OVERVIEW

A semi-structured interview assessing the frequency and characteristics of anticipatory processing in social anxiety was administered to high and low socially anxious individuals.

1.2. PARTICIPANTS

Participants were students at the University of Oxford and Oxford Brookes University who were selected because they had scores in the top and bottom 25 per cent of the general population on the Fear of Negative Evaluation Scale (FNE; see Appendix I). All participants were recruited from a sample of 182 student volunteers who had completed an initial screening FNE. Cutoffs were over 17 for the high social anxiety group and under nine for the low social anxiety group. Each group had 20 participants (high: nine male, 11 female; low: nine male, 11 female). Prior to taking part in the interview, all participants completed the trait subscale of the Spielberger State-Trait Anxiety Inventory (STAI: Spielberger, Gorsuch, Lushene, Vagg & Jacobs, 1983; see Appendix II). Participants were also assessed for a diagnosis of social phobia using the Structured Clinical Interview for DSM-IV (SCID-I: First, Spitzer, Gibbon & Williams, 1995). The FNE, STAI and SCID-I have established reliability and validity. Mean scores for age, years in full time education, FNE and STAI are given in Table 1. Independent-samples *t*-tests indicated that high socially anxious individuals scored

higher than low socially anxious controls on the FNE and the STAI. Six of the 20 high socially anxious participants, but none of the low socially anxious participants, fulfilled criteria for a diagnosis of social phobia ($X^2 = 7.06$, $df = 1$, $p < .01$).

Table 1. Means and standard deviations (parenthesis) for participant characteristics

<i>Variable</i>	<i>Group</i>				<i>t</i>	<i>p</i>
	<i>High anxiety</i>		<i>Low anxiety</i>			
Age	27.05	(9.91)	26.65	(5.21)	0.16	.87
Education (years)	16.95	(3.50)	17.05	(1.73)	0.11	.91
FNE	23.80	(4.46)	6.50	(2.04)	15.79	< .001
STAI	52.40	(9.63)	33.00	(6.70)	7.39	< .001

Note: $N = 20$ per group.

Prior to the interview, participants’ current mood was assessed using four analogue scales in which 0 represented ‘I do not feel at all X’ and 100 represented ‘I feel extremely X’. For different scales, X was either happy, angry, anxious or depressed. ‘At this moment’ was typed at the top of the sheet to indicate that participants were asked to rate instantaneous mood.

1.3. ETHICAL CONSIDERATIONS

1.3.1. Ethical approval

Ethical approval for the study was sought from the two local ethics committees and an outline of the two experiments was proposed. Both committees approved of the study with the proviso of some minor amendments, which were carried out before data collection (see Appendix III for letters confirming ethical approval).

1.3.2. Consent

The study was explained to participants by both written information sheet (see Appendix IV) and verbally, and they were given the opportunity to ask questions. Participants were also informed that they would be free to leave the interview at any time, and that the information they provided would be strictly confidential. Before starting the experiment, all participants completed a consent form in which they agreed to take part in the study on the basis of having received satisfactory answers to their questions (see Appendix V).

1.3.3. Distress

Throughout the interview clinical judgement was used to monitor participants' potential distress. Where difficult information was being disclosed, participants were offered the opportunity to take a break or discontinue the interview. In the six participants who fulfilled criteria for a diagnosis of social phobia, current levels of distress were established and in four instances a referral to psychological services was suggested. One participant was later referred to a cognitive-behavioural treatment trial for social phobia run at the Oxford University Department of Psychiatry.

1.4. PROCEDURE: SEMI-STRUCTURED INTERVIEW

All participants were interviewed individually. Each interview lasted approximately 60 minutes and consisted of a series of standardised questions asked in a fixed order. Whenever participants were required to give a rating, the interviewer displayed the relevant rating scale (for semi-structured interview, see Appendix VI).

1.4.1. Part One: General frequency and characteristics of anticipatory social anxiety

In Part One of the semi-structured interview, participants were asked about the general frequency and characteristics of their anticipatory social anxiety. First, they were asked to rate how often they usually worried in advance about social situations. Frequency was rated on a six-point scale ('never' to 'always'). Next, participants were questioned about how long they usually worried in advance about such situations. Length of time was rated on a 10-point scale, ranging from 0 ('not at all') to nine ('a week or more'). Participants were also asked to rate their usual level of anticipatory anxiety, on a 0-100 point scale.

Later in the interview, participants were asked about their general tendency to dwell on good or bad outcomes when thinking about social situations in general. This tendency was rated on a seven-point scale, which ranged from -3 (only dwelling on negative outcomes) to +3 (only dwelling on positive outcomes). Participants also rated

the accuracy of their predictions of good and bad social outcomes on a six-point scale ('never' to 'always').

1.4.2. Part Two: Characteristics of anticipatory processing in a recent episode of social anxiety

In Part Two of the interview, participants were asked to think about a recent specific occasion when they had been anxious in anticipation of a social event. They were then asked to rate how long they had worried in advance about that particular situation, on a 10-point scale, ranging from 0 ('not at all') to nine ('a week or more'). Next, they were asked to estimate the time of greatest anxiety in minutes before entering the feared social situation and to rate how anxious they had felt at that time on a 0-100 scale. Estimates of the time of greatest anxiety before the event were later coded using the 10-point time scale above ('not at all' to 'a week or more').

1.4.2.1. Hypothesis 1.1. Recall of past perceived social failures

To investigate Hypothesis 1.1., participants were asked whether during the time of greatest anxiety they had noticed themselves thinking about similar past social situations. If they answered in the affirmative, they were asked to rate how much they had thought about past social failures and/or successes on a seven-point scale, which ranged from -3 (only thought about the failures) to +3 (only thought about the successes).

1.4.2.2. Hypothesis 1.2. Construction of negative observer-perspective images of the self

Next, participants were asked whether during the time they were most anxious before the event an image had passed through their minds. If they did not report an image the investigator asked whether they had nevertheless had an impression of how they would come across in the situation, and/or how others would be reacting to them (see Hackmann et al., 1998). If they reported having had an image or impression, participants were asked to evoke it, and rate whether the predominant perspective was “one of viewing the situation as if looking out through their eyes, observing the details of what is going on around them” (the field perspective), or “one in which they were observing the self, looking at the self from an external point of view” (observer perspective). Perspective was rated on a seven-point scale, which ranged from -3 (field perspective) to +3 (observer perspective). Next, they were asked to describe the image or impression in as much detail as possible. They were encouraged to recount everything that they had seen, heard and felt in the image. Finally, they were asked to rate on a 0-100 scale the extent to which the image seemed distorted in retrospect when compared with the actual situation. Subsequently, an experienced clinical psychologist, who was blind to the participants’ high/low social anxiety status, rated (1) the emotional valence of participants’ descriptions of their images/impressions on a seven-point scale ranging from +3 (extremely positive), through 0 (neutral), to -3 (extremely negative), and (2) whether the image or impression appeared to have the characteristics of a clear visual picture, using a three-point scale, where 2 = yes, 1 = probably and 0 = no.

In order to find out more about the nature and origin of the spontaneously occurring images, participants were asked whether the image or impression they had experienced was recurrent, in that it always involved the same kinds of things. If the image was not recurrent, they were asked whether *any* of the images they had when anticipating social events were recurrent ones. If participants reported having had a recurrent image, they were asked about their earliest recollection of any of the aspects reflected in the recurrent image. They were then questioned as to whether there was a particular memory which seemed closely linked to the image. If they answered in the affirmative, they were asked to evoke the memory with their eyes closed. Participants were then asked a series of questions about the memory, similar to those they had been asked about the image or impression.

1.4.2.3. Hypothesis 1.3. Awareness of bodily sensations and negative thoughts

To determine awareness of bodily sensations, participants were asked whether they had noticed any bodily sensations during the time they had been most anxious before the event. If yes, they were presented with a list of 15 different physical sensations and asked to tick the ones they had experienced. The items on the list had been adapted from Inventory of Social Interactions (ISI: Foa, 1995, Section 2; see Appendix VII). Next, participants were asked to rate the extent to which they had been aware of their bodily sensations at the time on a 0-100 point scale. Finally, it was established whether they had viewed the bodily sensations as positive or negative.

Interpretation of bodily sensations was rated on a seven-point scale, ranging from -3 (extremely negative) to +3 (extremely positive).

In order to check for thoughts of escape and avoidance, participants were asked to rate to what extent they had thought about (1) ways in which they could get out of the situation if they became anxious, and (2) ways in which they could get out of having to go into the situation at all. Both items were rated on a 0-100 scale ('not at all' to 'a great deal'). To identify further positive or negative thinking patterns, participants were asked to describe what they had been thinking during the time they had been most worried about the event. Subsequent inspection of records of the interviews suggested that themes of catastrophisation and/or distrust were frequently present. Therefore, an experienced clinical psychologist, who was blind to the participants' high/low social anxiety status, rated participants' thoughts for these themes. Catastrophisation was defined as an 'interpretation of what the person anticipates will happen in the specific social situation as having global and negative implications for his or her view of himself/herself and his or her future'. Distrust was defined as 'the feeling that others will hide their negative evaluation of one's performance and/or lie about how negatively one's performance was perceived.' The presence or absence of these themes was rated by an independent assessor using a three point scale where 2 = yes, 1 = probably and 0 = no.

1.4.2.4. Hypothesis 1.4. Perceived effect of interoceptive information on levels of anxiety and confidence

Towards the end of the semi-structured interview, participants were asked about the perceived effect of their bodily sensations, thoughts and images/impressions on their anticipatory anxiety and their confidence that they would be able to make a good impression on others in the anticipated situation. Anxiety and confidence were rated on two seven-point scales, each ranging from -3 (much less anxious/much less confident) to +3 (much more anxious/much more confident).

1.4.2.5. Questionnaires

Following the interview, participants were asked to complete three questionnaires. First, a modified version of the Inventory of Social Interactions (ISI: Foa, 1995; Appendix VII) was used to investigate the extent to which high and low socially anxious individuals worried about certain types of social situations in advance (SOCSIT; see Appendix VIII). Examples of situations rated are 'speaking with unfamiliar people' and 'writing in public'. The questionnaire contained 13 items; each item was rated on a 0-4 point scale ('not at all' to 'extremely'). Second, a modified version of the Social Behaviour Questionnaire (SBQ: Clark, Butler, Fennell et al., 1995; Appendix IX) was used to assess cognitive strategies employed in anticipation of social situations (SOCBEH; see Appendix X). Examples of strategies rated are 'I rehearse conversations in my mind' and 'I try to picture how I will appear to others'. The questionnaire contained 19 items which were each rated on a 0-4 point scale

(‘never’ to ‘always’). Finally, an adapted version of the Social Attitudes Questionnaire (SAQ; Clark, Wells, Fennell et al., 1995; Appendix XI) was used to assess individuals’ beliefs and assumptions about anticipatory anxiety (SOCAT; see Appendix XII). Examples of assumptions and beliefs rated are ‘If I feel nervous before entering a social situation other people will notice it’ and ‘Other people are less nervous before social events than I am’. All items were rated on a seven-point scale, ranging from ‘totally disagree’ (–3) to ‘totally agree’ (+3). The reliability and validity of the ISI, SBQ and SAQ are not known. However, they were chosen to guide the development of the questionnaires used in the present study because they specifically target cognitions which are common in social anxiety and social phobia.

II. Results

2.1. DATA ANALYSIS

All analyses were performed using the statistical package SPSS (Version 8.0). Before hypothesis testing, each variable was checked for normality of distribution using tests of skewness and kurtosis. Homogeneity of variances was checked by carrying out individual *F*-tests. Where the data failed to meet the assumptions necessary for parametric statistical tests, non-parametric tests were used. The majority of the analyses used parametric statistics. Differences between the two groups were investigated using independent-samples *t*-tests and Chi-Square Tests. Mann-Whitney U tests were used for data which did not fulfil the condition of equal interval scale measurement.

2.2. PART ONE: GENERAL FREQUENCY AND CHARACTERISTICS OF ANTICIPATORY SOCIAL ANXIETY

Independent-samples *t*-tests (see Table 2) indicated that high socially anxious individuals experienced anticipatory anxiety more often than low socially anxious individuals (*Mean ratings* = ‘very often’ and ‘sometimes’, respectively). As would be expected, the groups also differed in the mean duration and degree of anticipatory anxiety. For high socially anxious individuals, the average duration of anticipatory anxiety was several days, whereas for low socially anxious individuals it was only 30-60 minutes. With regard to anticipatory processing, high socially anxious individuals were more likely to report dwelling on negative outcomes than low socially anxious controls. Although the perceived accuracy of predictions of bad outcomes was not significantly different in the two groups, high socially anxious participants were less accurate than low socially anxious individuals at predicting good outcomes.

Table 2. General frequency and characteristics of anticipatory social anxiety

Variable	Group				Statistic	p
	High anxiety		Low anxiety			
Frequency of anticipatory anxiety before social events (0-5)	4.10	(1.02)	2.35	(0.67)	<i>U</i> = 31.00	< .001
Usual duration of anticipatory anxiety (0-9)	7.60	(2.14)	3.20	(1.64)	<i>U</i> = 29.50	< .001
Usual degree of anticipatory anxiety (0-100)	63.00	(18.31)	35.50	(19.86)	<i>t</i> = 4.55	< .001
Anticipatory rumination on negative vs positive outcomes	-1.05	(1.39)	1.83	(2.05)	<i>t</i> = 5.19	< .001
Perceived accuracy of predictions of bad outcomes	2.90	(1.02)	3.00	(1.08)	<i>t</i> = 0.30	.77
Perceived accuracy of predictions of good outcomes	3.45	(0.94)	4.55	(0.60)	<i>t</i> = 4.39	< .001

Note: *N* = 20 for both groups. Standard deviations are given in parentheses.

2.3. PART TWO: CHARACTERISTICS OF ANTICIPATORY PROCESSING IN A RECENT EPISODE OF SOCIAL ANXIETY

All participants were able to recall a specific, recent social situation which they had anticipated and about which they had worried in advance. Table 3 shows the data for these episodes.

As one would expect, high socially anxious subjects had worried much longer about the specific event than low socially anxious individuals (*Mean ratings* = ‘a week or more’ and ‘5-12 hours’, respectively) and their peak anxiety ratings in anticipation of the situation were significantly higher. However, the time of greatest anxiety was not significantly different in the two groups. Both high and low socially anxious individuals reported feeling most anxious during the hour (‘1-2 hours’) before the event.

2.3.1. Hypothesis 1.1. Recall of past perceived social failures

High and low socially anxious individuals did not differ in their tendency to report recalling similar past social situations while they had anticipated the event. However, high socially anxious individuals reported recalling significantly more past perceived social failures than low socially anxious individuals.

Table 3. Characteristics of anticipatory processing in a recent episode of social anxiety

Variable	Group				Statistic	p
	High social anxiety		Low social anxiety			
Duration of anticipatory anxiety (0-9)	8.85	(2.25)	6.05	(3.30)	$U = 106.50$	< .05
Time of greatest anticipatory anxiety (0-9)	3.85	(2.60)	3.75	(3.34)	$U = 176.00$	.53
Anxiety at worst moment while anticipating the event (0-100)	85.75	(13.11)	68.00	(17.50)	$t = 3.63$	< .001
% of participants reporting recollections of similar past social situations	70	(14/20)	75	(15/20)	$\chi^2 = 0.13$	.72
Recollections of past perceived failures versus past successes	-2.00	(0.93)	1.07	(1.33)	$t = 7.31$	< .01
% of participants reporting an image or impression	90	(18/20)	85	(17/20)	$\chi^2 = 0.23$	.63
% of participants reporting a self-constructed image or impression	55	(11/20)	50	(10/20)	$\chi^2 = 0.25$	.62
Perspective taken in image or impression	1.14	(1.91)	-0.06	(2.36)	$t = 2.72$	.11
Perspective taken in self-constructed image or impression	1.64	(1.36)	-0.80	(2.04)	$t = 3.18$	< .01
Emotional valence of image or impression	-1.56	(1.42)	-0.41	(1.70)	$t = 2.17$	< .05
Emotional valence of self-constructed image or impression	-1.45	(1.21)	-0.10	(1.45)	$t = 2.33$	< .05
Distortion of image or impression (0-100)	51.67	(27.33)	34.71	(26.72)	$t = 1.86$	.07
Distortion of self-constructed image or impression (0-100)	53.18	(21.71)	40.00	(27.49)	$t = 1.23$	.24
% of participants reporting that image or impression recurrent	67	(12/18)	41	(7/17)	$\chi^2 = 2.29$	.13
% of participants reporting memory linked to image/impression	72	(13/18)	53	(9/17)	$\chi^2 = 1.39$	.24
Awareness of bodily sensations (0-100)	64.74	(27.7)	59.72	(26.7)	$t = 0.56$	.58
Number of different bodily symptoms experienced	4.84	(1.95)	2.33	(1.28)	$t = 4.59$	< .001
Interpretation of bodily symptoms	-1.50	(1.09)	-0.42	(1.40)	$t = 2.63$	< .05
Thoughts of escape (0-100)	35.50	(34.18)	9.25	(20.86)	$t = 2.93$	< .01
Thoughts of avoidance (0-100)	36.00	(36.11)	11.25	(22.65)	$t = 2.60$	< .05
% of participants reporting thoughts of catastrophisation	70	(14/20)	30	(6/20)	$\chi^2 = 6.40$	< .05
% of participants reporting thoughts of distrust	15	(3/20)	0	(0/20)	$\chi^2 = 3.24$	.07
Perceived effect of anticipatory processing on anxiety	2.00	(0.73)	0.28	(1.41)	$t = 4.87$	< .001
Perceived effect of anticipatory processing on confidence	-1.95	(1.28)	-0.05	(1.28)	$t = 4.71$	< .001

Note: $N = 20$ for both groups unless otherwise specified. Standard deviations are given in parentheses. All categories and scale scores are based on participants' ratings except for "clear image", "emotional valence", "thoughts of catastrophisation" and "thoughts of distrust", which were rated by an independent assessor.

2.3.2. Hypothesis 1.2. Construction of negative observer-perspective images of the self

High and low socially anxious individuals did not differ in their tendency to report having experienced an impression or image in anticipation of the social situation, and in the extent to which they reported having taken an observer-perspective in their images and impressions. However, some of the images and impressions reported were not concerned with what might happen in the situation but were recollections of past events. These were excluded from the concept of 'self-constructed image or impression'. When these images were excluded, both groups did still not differ significantly in their tendency to report having experienced a self-constructed image or impression. However, high and low socially anxious individuals did differ in the extent to which they took an observer-perspective in their self-constructed images and impressions. High socially anxious individuals had significantly higher perspective scores than controls. That is to say, they were significantly more likely to image themselves in the anticipated situation as if viewing themselves from the outside, spectating on the self.

High and low socially anxious individuals also differed in the emotional valence ratings of their images and impressions. High socially anxious individuals' images and impressions were rated by the independent rater as significantly more negative than those of low socially anxious individuals.

In retrospect, most participants (80 per cent) considered the images and impressions they experienced in anticipation of the social situation as at least partially distorted, and the groups did not differ significantly in the distortion ratings of their images and impressions.

Clark and Wells (1995) hypothesised that negative, distorted, observer-perspective images play a particularly important role in the maintenance of social phobia. In order to determine whether high socially anxious participants were more likely than low socially anxious individuals to experience such images/impressions while anticipating a social situation, emotional valence, perspective and distortion ratings were dichotomized. An image/impression was classified as negative if the emotional valence rating was -1, -2, or -3. Images/impressions were classified as distorted if they had received a distortion rating of greater than 10. Observer-perspective was defined as a perspective score of +1, +2 or +3. Using these definitions, socially anxious individuals were more likely than controls to report experiencing an image or impression that met the triple criteria of being negative, distorted and from an observer-perspective. The percentages of participants reporting such images/impressions for each way of classifying images/impressions were as follows: for participant-rated images or impressions, 61 per cent (11/18) of high versus 24 per cent (4/17) of low socially anxious individuals ($X^2 = 5.04$, $df = 1$, $p < .05$); for participant-rated self-constructed images or impressions, 64 per cent (7/11) of high versus 20 per cent (2/10) of low socially anxious individuals ($X^2 = 4.07$, $df = 1$, $p < .05$); for independent observer-rated clear visual images or impressions, 60 per cent

(9/15) of high versus 14 per cent (2/14) of low socially anxious individuals ($\chi^2 = 6.43, df = 1, p < .05$).

Fifty-four per cent (19/35) of high and low socially anxious participants, who had experienced an image/impression in anticipation of the social situation, reported that the image/impression was recurrent. Furthermore, 63 per cent (22/35) of those who had experienced an image/impression reported having a particular memory which they felt was closely linked to the image. As shown in Table 3, high and low socially anxious individuals did not differ in their tendency to report experiencing recurrent images and impressions. Moreover, high socially anxious individuals were not more likely than low socially anxious individuals to report having memories which seem closely linked to their images.

2.3.3. Hypothesis 1.3. Awareness of bodily sensations and negative thoughts

High and low socially anxious individuals could not be shown to differ in their tendency to report being aware of their bodily sensations in anticipation of the situation. However, high socially anxious individuals reported a greater number of bodily sensations and they were more likely than low socially anxious individuals to interpret their bodily sensations as negative.

High socially anxious individuals reported thinking significantly more than low socially anxious controls about ways in which to get out of the situation if they became too anxious (escape). They also reported thinking more than low socially

anxious individuals about ways in which they could avoid having to go into the situation (avoidance). Independent assessor ratings of catastrophisation and distrust indicated that high socially anxious subjects were more likely than controls to interpret what they thought would happen in the situation as having global and negative implications (catastrophisation). However, they were not significantly more likely than low socially anxious individuals to think that others would hide their negative evaluation of their performance and/or lie about how negatively they perceived the performance (distrust).

2.3.4. Hypothesis 1.4. Perceived effect of interoceptive information on levels of anxiety and confidence

High socially anxious individuals differed from low socially anxious individuals in the way they interpreted the effects of their anticipatory processing. They were significantly more likely than controls to interpret the bodily sensations, thoughts and images/impressions they had experienced during anticipation as having increased their anxiety and reduced their confidence that they would be able to make a good impression.

Overall, the results from the semi-structured interview supported the hypothesised processes outlined by Clark and Wells (1995), and provided some additional data about the nature of anticipatory processing in social anxiety.

2.3.5. Additional findings from the questionnaires

2.3.5.1. Questionnaire One

The analysis of participants' overall scores on Questionnaire One (SOCSIT; Appendix VIII) showed that high socially anxious individuals were significantly more likely than low socially anxious controls to worry about a variety of social situations in advance ($t(38) = 6.47, p < .001; Ms (SDs) = 24.30 (9.77)$ and $9.20 (3.69)$, respectively).

2.3.5.2. Questionnaire Two

The analysis of participants' responses to individual items on Questionnaire Two (SOCBEH; Appendix X) showed that high socially anxious individuals were more likely than low socially anxious participants to engage in extensive anticipatory processing in anticipation of feared social situations (see Table 4).

High socially anxious participants had a greater tendency to think of ways to avoid having to face a social situation, or to think of ways of escaping from the situation. They also reported a greater tendency to try to anticipate everything that might happen, to imagine the worst thing that could happen, and to go over the things they thought might happen in detail. By contrast, individuals in the low social anxiety group appeared to have a greater tendency to think positively and to anticipate the good things that might happen in the situation.

Table 4. Ratings for cognitive strategies used in anticipation of feared social situations (0-4)

Variable	Group				Statistic	p
	High anxiety		Low anxiety			
Thinking of ways to avoid having to face the situation	1.30	(0.73)	0.60	(0.50)	$t = 3.52$	< .01
Thinking of ways to escape from the situation if it gets too embarrassing	1.40	(0.82)	0.35	(0.59)	$t = 4.65$	< .001
Trying to anticipate everything that could happen	1.45	(0.89)	0.65	(0.67)	$t = 3.22$	< .01
Imagining the worst thing that could happen	1.75	(0.91)	0.65	(0.49)	$t = 4.76$	< .001
Going over in detail what might happen	1.75	(0.79)	0.80	(0.62)	$t = 4.25$	< .001
Trying to think positively	1.30	(0.66)	2.25	(0.64)	$t = 4.64$	< .001
Imagining the good things that could happen	1.00	(0.56)	2.05	(0.76)	$t = 4.97$	< .001
Trying to plan what to say	1.90	(0.85)	1.15	(0.81)	$t = 2.85$	< .01
Rehearsing conversations in one's mind	1.90	(0.79)	0.85	(0.75)	$t = 4.33$	< .001
Reminding oneself of things one should not do	1.65	(0.88)	0.95	(0.76)	$t = 2.70$	< .05
Thinking of ways to put things right if one made a fool of oneself	1.15	(0.88)	0.35	(0.59)	$t = 3.40$	< .01
Trying to picture how one will appear to others	1.65	(0.88)	1.00	(0.73)	$t = 2.56$	< .05
Trying to distract oneself from anxious feelings	1.30	(0.73)	1.25	(0.85)	$t = 0.20$	.84
Making a conscious effort not to think about the situation	1.25	(0.85)	0.95	(0.69)	$t = 1.23$	.23

Note: *N* = 20 for both groups. Standard deviations are given in parentheses.

High socially anxious individuals also reported having a greater tendency to plan what they might say and to rehearse conversations in their mind. In addition, they were more likely to remind themselves of things they should avoid doing while being in the situation and to think of ways in which they could put things right if they felt they had made a fool of themselves. Finally, they were more likely than low socially anxious

individuals to report picturing how they might appear to others in the anticipated event. The groups did not differ significantly in their tendency to distract themselves from anxious feelings or to try to avoid thinking about the situation beforehand.

2.3.5.3. Questionnaire Three

Results from Questionnaire Three (SOCAT; Appendix XII) showed that high socially anxious individuals held significantly more negative beliefs and assumptions about anticipatory anxiety than low socially anxious controls (see Table 5).

Table 5. Agreement with assumptions and beliefs about anticipatory social anxiety (–3 to +3)

Assumption/belief	Group				Statistic	p
	High anxiety		Low anxiety			
If I feel nervous before entering a social event, other people will notice it.	0.85	(1.35)	-0.40	(1.79)	t = 2.50	< .05
If people see that I'm anxious before a social event, they will humiliate, ridicule or discount me.	-0.60	(1.73)	-2.30	(0.92)	t = 3.88	< .005
If people see that I'm anxious before a social event, they will think I'm weak or inferior.	0.05	(1.70)	-1.90	(1.29)	t = 4.08	< .001
No matter how nervous I get before social situations, I always feel confident that I will make a good impression.	-0.95	(1.43)	1.15	(1.50)	t = 4.54	< .001
Other people are less nervous before social events than I am.	0.55	(1.36)	-0.50	(1.40)	t = 2.41	< .05
I look as anxious as I feel.	-0.25	(1.83)	-1.15	(1.50)	t = 1.70	.10

Note: *N* = 20 for both groups. Standard deviations are given in parentheses.

High socially anxious individuals were more concerned than low socially anxious individuals about the noticeability of their anxiety, and they were more likely than

low socially anxious individuals to interpret this noticeability as increasing the danger of being humiliated, ridiculed or discounted by others, or being judged as weak or inferior. Furthermore, they felt significantly less confident about their ability to make a good impression, and believed themselves to be more anxious before social events than other people.

Overall, the results from the questionnaires provided evidence of further cognitive strategies employed by high socially anxious in anticipation of feared social situations. Additionally, it was shown that high socially anxious individuals held significantly more negative beliefs and assumptions about anticipatory anxiety than low socially anxious controls.

2.4. EXPERIMENT 1: SUMMARY OF THE MAIN FINDINGS

The findings from the present study suggest that high and low socially anxious individuals engage in different cognitive processes while anticipating a feared social situation. First, the findings showed that high socially anxious individuals were significantly more likely than low socially anxious controls to report recalling past perceived social failures. Second, although high and low socially anxious individuals did not differ in their tendency to report having experienced a self-constructed image or impression in anticipation of the situation, high socially anxious individuals' self-constructed images or impressions were significantly more negative in emotional tone, and were more likely to involve seeing oneself from an observer-perspective. Third, although participants in both groups did not differ significantly in their

awareness of bodily sensations, high socially anxious individuals noticed a greater number of bodily sensations and tended to interpret their bodily symptoms more negatively. Fourth, compared to low socially anxious controls, high socially anxious individuals were more likely to experience thoughts of escape and avoidance, and they had a greater tendency to catastrophise the long-term consequences of social failure. Finally, high socially anxious individuals were more likely than low socially anxious controls to interpret their anticipatory processing as having increased their anxiety and reduced their confidence that they would be able to make a good impression. Additional results from questionnaires indicated that, in general, high socially anxious individuals were more likely than low socially anxious controls to analyse in detail what might happen in the anticipated situation (e.g. by thinking of everything that might happen, or imagining the worst that could happen), and they were more likely than controls to try to prepare themselves for these eventualities (e.g. by rehearsing conversations in their mind, or thinking of ways of how to put things right if they made a fool of themselves). Furthermore, it was shown that high socially anxious individuals held significantly more negative beliefs and assumptions about anticipatory anxiety than low socially anxious controls. Overall, the results broadly confirmed Clark and Wells (1995) hypotheses about the nature of anticipatory processing in social anxiety.

The cognitive model (Clark & Wells, 1995) assumes that the cognitive processes that high socially anxious individuals engage in while anticipating a social situation are dysfunctional (i.e. they serve to maintain social anxiety). In order to clarify whether the anticipatory processes that high socially anxious individuals reported engaging in

while anticipating social events were indeed dysfunctional, it was decided to investigate the effects of this type of anticipatory processing on levels of anxiety and confidence in a second experiment.

III. EXPERIMENT 2:

***The effects of dysfunctional
anticipatory processing on
social anxiety and confidence***

I. Method

1.1. OVERVIEW

Experiment 2 aimed to investigate the effects of engaging in the anticipatory processes usually employed by high socially anxious individuals on levels of anxiety and confidence before and during a feared social situation. High and low socially anxious individuals were asked to engage in either dysfunctional anticipatory processing or a distraction task while anticipating having to give a video-recorded speech. Public speaking was chosen as the anticipated social situation because it is the most commonly feared social situation (Rapee, 1995). The rationale for videoing the speeches was twofold: First, it was predicted that telling participants that they would be videoed would increase their anticipatory anxiety. Second, it was hypothesised that, following the speech, participants who had engaged in dysfunctional anticipatory processing would underestimate their speech performance and overestimate the visibility of their anxiety during the speech, relative to independent observers.

1.2. DESIGN

Participants received both preparation conditions (dysfunctional anticipatory processing versus distraction) with order of presentation counterbalanced across participants within each social anxiety group. There were two possible speech topics (Topic A: ‘The Advantages and Disadvantages of the Death Penalty’ versus Topic B: ‘The Advantages and Disadvantages of Animal Testing’), the order of which was also

counterbalanced across participants, leading to four experimental conditions within each of the two social anxiety groups (see Table 6).

Table 6. Order of preparation and speech topics in the four experimental conditions

<i>Exp. condition</i>	<i>First occasion</i>		<i>Second occasion</i>	
	<i>Preparation</i>	<i>Speech topic</i>	<i>Preparation</i>	<i>Speech topic</i>
I A	Dysf. processing	Topic A	Distraction	Topic B
I B	Dysf. processing	Topic B	Distraction	Topic A
II A	Distraction	Topic A	Dysf. processing	Topic B
II B	Distraction	Topic B	Dysf. processing	Topic A

1.3. PARTICIPANTS

Participants were students at the University of Oxford and Oxford Brookes University who had scores in the top and bottom 25 per cent of the general population on the Fear of Negative Evaluation Scale (FNE). As before, all participants were recruited from a sample of 182 student volunteers who had completed an initial screening FNE. Cutoffs were over 17 for the high social anxiety group and under nine for the low social anxiety group. Each group had 20 participants (high: six male, 14 female; low: 12 male, eight female). With the exception of two individuals, none of the participants selected for Experiment 2 had taken part in Experiment 1. Prior to taking part in the experiment, all participants completed the trait subscale of the Spielberger State-Trait Anxiety Inventory (STAI). Participants were also assessed for a diagnosis of social phobia using the Structured Clinical Interview for DSM-IV (SCID-I). Mean scores for age, FNE and STAI are given in Table 7. Independent-samples *t*-tests indicated that high socially anxious individuals scored higher than low socially anxious controls on

the FNE and STAI. Three of the 20 high socially anxious participants, but none of the low socially anxious participants, fulfilled criteria for a diagnosis of social phobia.

Table 7. Means and standard deviations (parenthesis) for participant characteristics

<i>Variable</i>	<i>Group</i>				<i>t</i>	<i>p</i>
	<i>High anxiety</i>		<i>Low anxiety</i>			
Age	22.85	(4.74)	26.40	(8.88)	1.58	.12
FNE	23.10	(3.60)	5.65	(2.50)	17.82	< .001
STAI	49.20	(7.92)	30.80	(5.59)	8.49	< .001

Note: *N* = 20 per group.

1.4. ETHICAL CONSIDERATIONS

1.4.1. Consent

The study was explained to participants by both written information sheet (see Appendix XIII) and verbally, and they were given the opportunity to ask questions. They were also informed that they would be free to leave the experiment at any time, and that the information they provided would be strictly confidential. Before starting the experiment, all participants completed a consent form in which they agreed to take part in the study on the basis of having received satisfactory answers to their questions (see Appendix V).

1.4.2. Distress

Throughout the experiment clinical judgement was used to monitor participants' potential distress. One participant became intensely worried about the speech

performance, and the person was offered to discontinue the experiment. In the three participants who fulfilled criteria for a diagnosis of social phobia, current levels of distress were established and in one instance a referral to psychological services was suggested.

1.5. APPARATUS

1.5.1. Heart rate monitor

Heart rate was recorded with a Polar Sports Tester heart rate monitor. The monitor stored heart rate in 15-second intervals. Heart rate was measured to provide a physiological index of emotional response.

1.5.2. Questionnaires and rating scales

To assess participants' positive and negative behaviours during the two speeches, a behaviour checklist developed by Mansell and Clark (1999) was used (see Appendix XIV). Following each speech, participants rated how anxious they thought they had appeared in the video and also to what extent they thought they had shown seven positive characteristics (e.g. confident, self-assured) and ten negative characteristics (e.g. awkward, left long gaps in speech). Each item was rated on a 0-8 scale ('not at all' to 'extremely'). The same items were later rated separately by two assessors who watched video recording of the speeches.

Following each speech, a manipulation check was carried out which involved asking participants the following question: 'Thinking back to the time between when I first told you that you had to give a speech and when you started the speech, what percent of time were you thinking about giving the speech?' Participants were asked to give a 0-100 rating, which was noted down on a record sheet.

Participants' mood was assessed prior to starting the experiment using four analogue scales in which 0 represented 'I do not feel at all X' and 100 represented 'I feel extremely X'. For different scales, X was happy, angry, anxious or depressed. 'At this moment' was typed at the top of the sheet to indicate that instantaneous mood was to be rated.

1.6. PROCEDURE

Participants were tested individually several weeks after completing a initial screening FNE. On arrival, participants were told that the experiment would involve completing some questionnaires, watching a short video and giving two short speeches. Participants next fitted the heart rate monitor and completed the FNE and STAIT questionnaires. They were then taught how to use the instantaneous mood scales. Next, in order to activate social-evaluative concerns, participants were given the following social threat induction:

I would like you to give a short speech on a yet unknown topic in about 20 minutes' time. I will give you the topic of your speech just before you start giving it. When you give the speech you will be videoed and the video will later be rated by independent

raters, who are psychologists. I would like you to try to make a particularly good impression on the raters.

Next, all participants were asked two questions: (1) How anxious have you felt in the last couple of minutes, since I told you that you have to give a speech? and (2) How confident are you that you will be able to make a good impression on the raters? For each question, participants were provided with 0-100 rating scales, and asked to give an oral report which was noted down on a record sheet. For the next 20 minutes, half the participants were asked to follow a set of instructions as a way of preparing for the speech (dysfunctional processing condition), whereas the other half were asked to pay attention to a video film (distraction condition).

Participants in the dysfunctional processing condition were given a handout with written instructions, requiring them to engage in some of the supposedly dysfunctional anticipatory processes identified in Experiment 1. The instructions were as follows:

In about 20 minutes' time I will ask you to give a short speech on a certain topic. I would like you to prepare for this task by following the steps below. Please spend a few minutes on each of the steps and make sure you go through all of them in the order in which they are given. Please make sure you follow all of the steps.

- 1. Please try to think of a particular social situation that you felt did not go well, where you felt uncomfortable or felt that others formed an unfavourable impression of you.*
- 2. Try to imagine how you appeared in that situation: How do you think you looked to others?*

3. *Now, try to imagine how you are going to appear in the speech you are about to give. Try to think about how you will appear to others. What will they see?*
4. *Try to analyse in as much detail as possible what could go wrong while you are giving the speech.*
5. *Try to anticipate the worst thing that could happen while you are giving the speech.*
6. *Try to think about what you would have to do if you made a fool of yourself.*

If you have finished the task before the end of the 20-minute period, please go back to the beginning, and try to think of another social situation that you felt did not go well.

Participants were told that they were allowed to take notes if they felt it helped them to focus on the instructions. Pen and paper were provided. They were also told that they would not be allowed to use the notes during the speech. Having checked participants' understanding of instructions and procedure, the experimenter left the room and returned after 20 minutes.

Participants in the distraction condition were asked to pay careful attention to a 20-minute sequence from the film 'Microcosmos', in which four insects were portrayed (ladybirds, snails, wasps and a dung beetle). The distraction task aimed to be engaging and non-threatening. It had been decided to show a film involving animals rather than people, in order to avoid associations with social situations. Participants were given the following written instructions:

The present task tries to identify the key features of insects which determine why people dislike or like them. That is to say we are trying to find which aspects of insects make them appealing or unappealing to people.

For this task we will show you a 20-minute film portraying various insects. Following the film we would like you to answer a few questions about how appealing and unappealing you find aspects of each of the insects portrayed.

There are no right or wrong answers in this task and everyone differs in their preferences. Although we are only interested in your preferences, we want you to concentrate hard on the film.

Please try to pay careful attention to each of the animals portrayed. We would like you to not think about anything else during this task.

Having checked participants' understanding of instructions and procedure, the experimenter started the video and left the room. After 20 minutes he returned, and the participants were asked to complete a short questionnaire asking them questions about how appealing or unappealing they had found various aspects of the insects portrayed in the video (see Appendix XV). For each of the insects, participants rated physical and behavioural aspects (e.g. eyes, movement) on a seven-point scale ('not at all appealing' to 'extremely appealing').

Having completed one of the two conditions, all participants were asked two questions: (1) How anxious have you been feeling in the last couple of minutes? (2) How confident are you that you will be able to make a good impression on the raters? For each question, participants were asked to give a 0-100 rating, which was noted down on a record sheet. The topic for the speech was then provided (Either 'The

Advantages and Disadvantages of the Death Penalty' [Topic A], or 'The Advantages and Disadvantages of Animal Testing' [Topic B]) and participants were given 30 seconds to plan the speech. Before talking to the camera, the experimenter explained that he would not be present during the speech, and participants were asked to start talking after he had left the room, and to continue until he had re-entered it. The experimenter then switched on the camera and left the room for three minutes.

Following the speech, participants were asked two questions: (1) What was your peak anxiety rating during the speech? (2) How good an impression do you think you made on the raters? As before, participants were provided with 0-100 rating scales, and asked to give an oral report. They then completed the behaviour checklist to indicate how they thought they had appeared during the speech (see Appendix XIV).

In the second part of the experiment, participants were told that they would have to give another three-minute speech in 20 minutes time. Participants who had been engaged in the distraction task on the first occasion were now asked to follow the instructions for dysfunctional processing for the next 20 minutes; participants who had been engaged in dysfunctional processing were asked to engage in the distraction task during that time. The above procedures were repeated. During the second speech, participants who had been given speech topic A the first time, were asked to talk about topic B and vice versa. At the end of the study all participants were debriefed and paid. Subsequently, two independent observers, blind to the experimental conditions, independently rated the videos of the speeches using the behaviour checklist.

II. Results

2.1. DATA ANALYSIS

All analyses were performed using the statistical package SPSS (Version 8.0). Before hypothesis testing, each variable was checked for normality of distribution using tests of skewness and kurtosis. Homogeneity of variances was checked by carrying out individual *F*-tests. None of the variables showed unequal distributions or variances across the two conditions. The data therefore met the assumptions of normality necessary for the use of parametric statistics. Differences between the two conditions were tested using four- and three-way repeated-measures Analyses of Variance (ANOVAs), and paired *t*-tests.

2.2. EFFECTS OF DYSFUNCTIONAL ANTICIPATORY PROCESSING AND DISTRACTION ON ANXIETY

2.2.1. Hypothesis 2.1.a Effects of dysfunctional processing and distraction on ratings of anxiety before the speech

Table 8 shows participants' anxiety ratings at different stages of the experiment. The effects of dysfunctional processing and distraction on participants' ratings of anxiety before the speech were explored by means of a four-way repeated-measures ANOVA with two between-group and two within-group factors: Group (high - low) × Order (dysfunctional processing-first - distraction-first) × Time (time1 - time2) × Condition

(dysfunctional processing - distraction). The results showed a significant main effect of condition, $F(1, 36) = 17.44, p < .001$, and a significant main effect of time, $F(1, 36) = 12.20, p < .005$. These effects were qualified by a significant condition by time interaction, $F(1, 36) = 6.56, p < .05$.

Table 8. Means and standard deviations (parenthesis) for ratings of anxiety (0-100)

Time	Condition	Group			
		High social anxiety		Low social anxiety	
20 mins. before speech	Dysf. processing	54.25	(14.07)	32.00	(21.85)
	Distraction	50.75	(18.44)	30.50	(17.61)
2 mins. before speech	Dysf. processing	51.50	(17.78)	31.25	(24.43)
	Distraction	31.25	(17.98)	22.75	(21.79)
Peak during speech	Dysf. processing	65.00	(20.13)	46.25	(24.60)
	Distraction	58.50	(18.79)	44.75	(22.62)
Peak during speech (with exclusion)	Dysf. processing	68.24	(18.79)	47.94	(25.44)
	Distraction	57.65	(18.30)	41.76	(19.68)

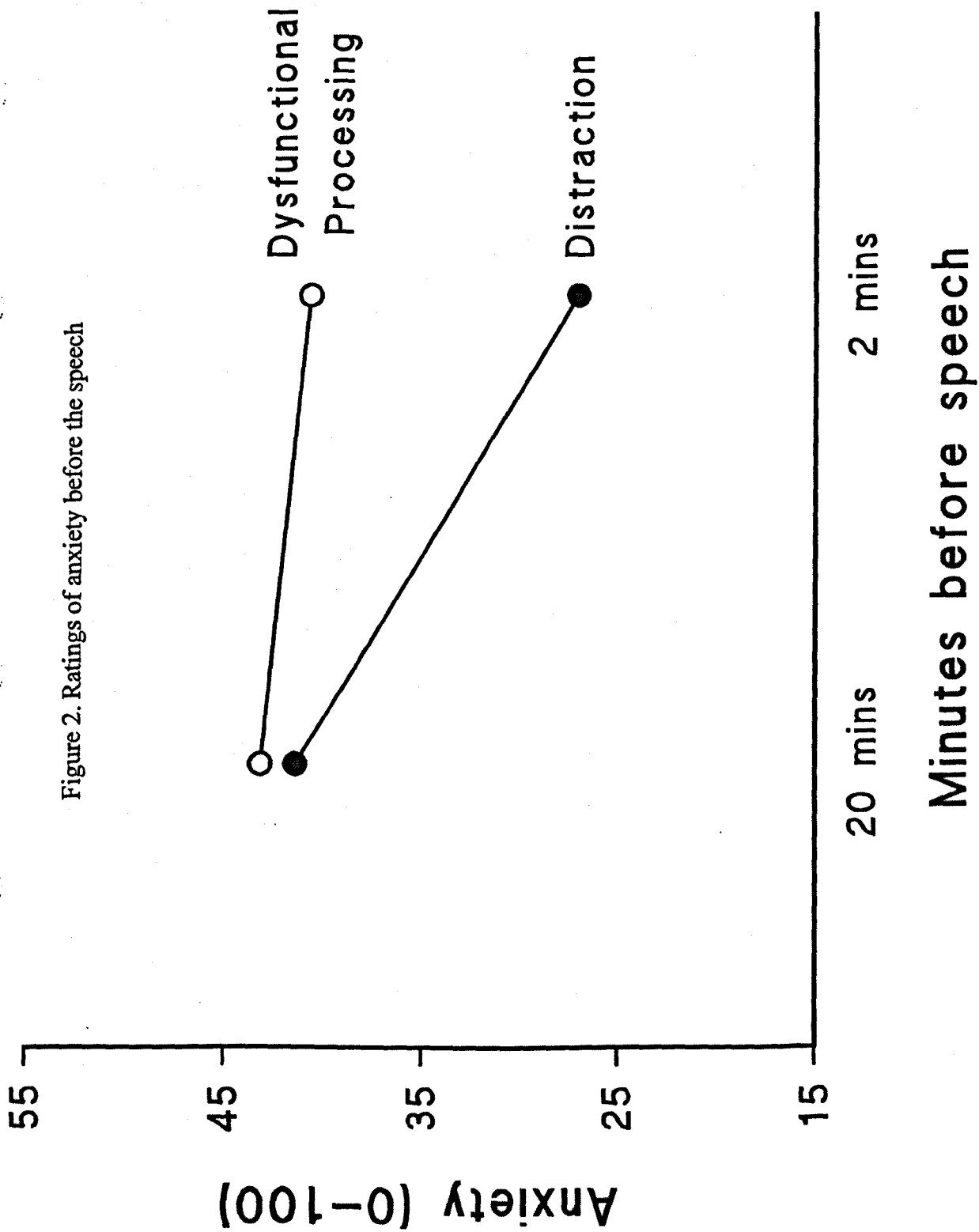
Note: $N = 20$ per group, except for ‘peak during speech (with exclusion)’, $n = 17$ per group.

Paired comparisons indicated that there were no significant differences in anxiety between the dysfunctional processing and distraction condition prior to the instructions ($t(39) = 0.95, ns.$; $Ms (SDs) = 43.13 (21.35)$ and $40.63 (20.54)$, for dysfunctional processing and distraction, respectively). However, after engaging in the conditions for 20 minutes, the dysfunctional processing condition was associated with significantly higher ratings of anxiety than the distraction condition ($t(39) = 3.74, p < .005$; $Ms (SDs) = 41.38 (23.45)$ and $27.00 (20.19)$, for dysfunctional processing and distraction, respectively). Within-condition comparisons between time one and time two indicated that the dysfunctional processing condition maintained

anticipatory anxiety ($t(39) = 0.67, ns.$), whereas the distraction condition was associated with a significant decrease ($t(39) = 3.66, p < .005$) (see Figure 2). The ANOVA also showed a significant interaction of condition and order, $F(1, 36) = 13.54, p < .005$, indicating that participants' anxiety ratings were generally higher before the first than the second speech. There were no main effects or interactions involving group, indicating that high and low FNE participants did not differ in their ratings of anxiety before the speech. The results did not show any other significant main effects or interactions.

Overall, the results suggested that participants' ratings of anxiety two minutes before the speech had been significantly affected by whether they had been engaged in dysfunctional processing or distraction during the 20 minutes prior to giving the speech. Participants who had been engaged in dysfunctional processing reported significantly higher levels of anxiety two minutes before the speech than participants who had been engaged in the distraction task.

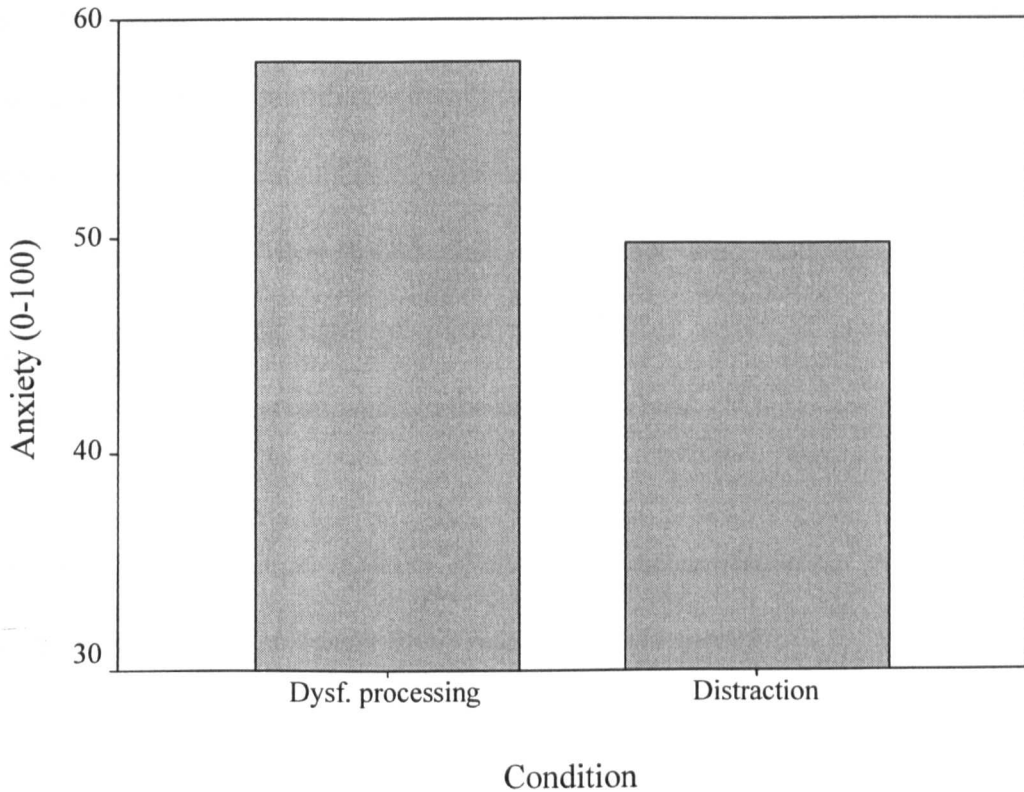
Figure 2. Ratings of anxiety before the speech



2.2.2. Hypothesis 2.1.b Effects of dysfunctional processing and distraction on ratings of peak anxiety during the speech

Table 8 also shows participants' peak anxiety during the speech. These data were subjected to a three-way (Group \times Order \times Condition) ANOVA. The results showed no significant main effect of condition, $F(1, 36) = 2.22$, *ns.*, indicating that participants who had been engaged in dysfunctional processing in the 20 minutes prior to giving the speech, were not significantly more anxious during the speech than participants who had been engaged in the distraction task. There was a significant condition by order interaction, $F(1, 36) = 59.70$, $p < .001$, indicating that, in both conditions, participants' peak anxiety was higher in the first than the second speech. The results showed no significant main effects or interactions involving group, indicating that high and low FNE participants did not differ in their ratings of peak anxiety during the speech. To investigate whether the lack of difference in peak anxiety may have occurred because some participants were unable to follow the experimental instructions, an additional analysis was conducted, which excluded participants for whom the difference between 'thoughts about the speech during dysfunctional processing' and 'thoughts about the speech during the distraction task' was less than nine (six participants; 17.10 per cent). Table 8 shows participants' peak anxiety during the speech with the exclusion filter applied. These data were subjected to a three-way (Group \times Order \times Condition) ANOVA, which showed a significant effect of condition, $F(1, 30) = 8.09$, $p < .01$ (see Figure 3).

Figure 3. Ratings of peak anxiety during speech



Paired comparisons indicated that the dysfunctional processing condition was associated with significantly higher ratings of peak anxiety during the speech than the distraction condition ($t(34) = 2.04, p < .05$; $M_s (SDs) = 58.09 (24.31)$ and $49.71 (20.37)$, respectively). Within-condition comparisons between time one and time three indicated that both conditions were associated with a significant increase in anxiety (Dysfunctional processing: $t(34) = 5.08, p < .001$; Distraction: $t(34) = 3.67, p < .005$). The results of the ANOVA also showed a significant condition by order interaction, $F(1, 30) = 54.24, p < .001$, indicating that in both conditions, participants' peak anxiety ratings were higher in the first than the second speech. As before, there were no significant main effects or interactions involving group.

Overall, the results suggested that participants' ratings of peak anxiety during the speech had been significantly affected by whether they had been engaged in dysfunctional processing or distraction during the 20 minutes before the speech. When individuals who had been unable to concentrate on the distraction task were excluded from the analysis, it was found that participants who had been engaged in dysfunctional processing reported significantly higher levels of peak anxiety than participants who had been engaged in the distraction task.

2.2.3. Additional findings: Effects of dysfunctional anticipatory processing and distraction on average and peak heart rate during the speech

Participants' average heart rate was calculated for each of the two speeches by adding up heart rate values for the time of the speech and dividing them by 12 (heart rate had been measured over three minutes at 15-second intervals). For peak heart rate the highest of the 12 values was selected for each of the speeches. Average and peak heart rate data were subjected to two separate three-way (Group \times Order \times Condition) ANOVAs. The results for average heart rate showed no significant effect of condition, $F(1, 36) < 1$. The condition by order interaction was significant, $F(1, 36) = 26.47$, $p < .001$, indicating that average heart rate had been higher during the first than the second speech. There were no main effects or interactions involving group, indicating that high and low FNE participants had not differed in their average heart rate during the speech. The ANOVA showed no other significant main effects or interactions. For peak heart rate, the results showed no significant effect of condition, $F(1, 36) < 1$. Again, there was a significant condition by order interaction, $F(1, 36) = 22.35$, $p <$

.001, indicating that peak heart rate had been higher in the first than the second speech. The results showed no main effects or interactions involving group, indicating that high and low FNE participants had not differed in their peak heart rate. With the exclusion filter applied the results for both, average and peak heart rate, showed no further significant main effects or interactions.

Overall, these results suggested that participants' average and peak heart rates during the speeches were not affected by whether they had been engaged in dysfunctional processing or distraction during the 20 minutes before the speech.

2.3. EFFECTS OF DYSFUNCTIONAL ANTICIPATORY PROCESSING AND DISTRACTION ON CONFIDENCE

2.3.1. Hypothesis 2.2.a Effects of dysfunctional processing and distraction on ratings of confidence before the speech

Table 9 shows participants' ratings of confidence at different stages of the experiment. To explore the effects of dysfunctional processing and distraction on participants' levels of confidence before the speech, these data were submitted to a four-way (Group \times Order \times Time \times Condition) ANOVA. The results showed no significant main effect of condition, $F(1, 36) < 1$, and there were no significant interactions involving condition. There was also no significant main effect of time, $F(1, 36) = 1.05$, *ns.*, but a significant time by group interaction, $F(1, 36) = 4.44$, $p < .05$. The interaction indicated that, from time one to time two, low FNE participants'

confidence had slightly reduced, whereas high FNE participants' confidence had slightly increased (see Table 9). The results showed no other main effects or interactions involving group, indicating that high and low FNE participants did not differ in their levels of confidence before the speech. No other significant main effects or interactions were shown. A reanalysis of the data, using the exclusion filter, showed a significant condition by order interaction, indicating that prior to the second speech, levels of confidence in the distraction condition had dropped, compared to the first speech. There results showed no further significant main effects or interactions.

Table 9. Means and standard deviations (parenthesis) for ratings of confidence (0-100)

<i>Time</i>	<i>Condition</i>	<i>Group</i>			
		<i>High social anxiety</i>		<i>Low social anxiety</i>	
20 mins. bef.	Dysf. processing	28.75	(20.51)	59.00	(18.40)
	Distraction	29.50	(20.96)	56.50	(15.48)
2 mins. bef.	Dysf. processing	29.75	(19.83)	54.75	(19.63)
	Distraction	30.75	(21.04)	54.25	(16.41)
During speech	Dysf. processing	32.25	(22.62)	53.00	(13.12)
	Distraction	34.25	(24.19)	50.50	(18.98)

Note: *N* = 20 per group.

2.3.2. Hypothesis 2.2.b Effects of dysfunctional processing and distraction on ratings of confidence during the speech

Table 9 also shows participants' ratings of confidence during the speech. A second four-way (Group × Order × Time × Condition) ANOVA was carried out in order to compare participants' confidence ratings at times one and three. The results showed no significant main effects of condition, *F* (1, 36) < 1, or time, *F* (1, 36) < 1, and the

condition by time interaction was not significant, $F(1, 36) < 1$. However, there was a significant time by group interaction, $F(1, 36) = 7.91$, $p < .01$, indicating that, independent of condition, low FNE participants' confidence had slightly reduced from time one to time three, whereas high FNE participants' confidence had slightly increased (see Table 9). There was also a significant three-way, time \times condition \times order, interaction, $F(1, 36) = 9.82$, $p < .01$, showing that, whereas confidence had been maintained in the dysfunctional processing condition, distraction was associated with a reduction in confidence ratings during the first speech, and an increase in confidence ratings during the second speech. There were no other significant interactions involving group, indicating high and low FNE participants had not differed in their confidence ratings. There were no other significant main effects or interactions. The application of the exclusion filter yielded no further significant results.

Overall, the findings suggested that participants' ratings of confidence shortly before, and during the speech, had not been significantly affected by whether they had been engaged in dysfunctional processing or distraction during the 20 minutes before giving the speech.

2.4. COMPARISON OF SELF- VERSUS EXTERNAL OBSERVER RATINGS OF SPEECH PERFORMANCE AND VISIBILITY OF ANXIETY

In order to assess the degree of agreement between the two external raters who had independently carried out ratings of participants' speech performances using the

behaviour checklist (Appendix XIV), inter-rater reliability based on Pearson's Correlation Coefficients was calculated. The correlations were as follows: $r(37) = 0.79$ for overall scores on the performance ratings (seven positive and ten negative characteristics); $r(37) = 0.73$ for overall speech success ratings; and $r(37) = 0.48$ for ratings of visibility of anxiety. Because of the low inter-rater reliability, external observer ratings for visibility of anxiety had to be excluded from further analyses. This meant that Hypothesis 2.4., which had stated that, relative to external observers, individuals who engaged in dysfunctional anticipatory processing before giving the speech would overestimate the visibility of their anxiety during the speech more than individuals who engage in the distraction task, could not be tested. For overall performance and speech success ratings, the average of the two ratings was used in subsequent analyses.

2.4.1. Hypothesis 2.3. Underestimation of own performance relative to external observer ratings

In order to test whether participants in the dysfunctional processing condition had underestimated their own speech performance and overall speech success more than participants in the distraction condition, difference scores were calculated for each condition by subtracting observer ratings from self-ratings for each participant's two speeches. The resulting difference scores were then subjected to two separate three-way (Group \times Order \times Condition) ANOVAs. For overall speech performance ratings, the results showed no significant main effect of condition, $F(1, 33) < 1$, indicating that participants who had engaged in dysfunctional anticipatory processing prior to

giving the speech had not underestimated their overall performance significantly more than participants in the distraction condition. The results showed no other significant main effects of interactions involving condition. There was a main effect of group, $F(1, 33) = 23.12, p < .001$, indicating that high socially anxious participants had underestimated their overall performance more than low socially anxious individuals ($M_s (SDs) = -27.26$ and -3.76 , for high and low socially anxious individuals respectively).

Analysis of the difference scores for ratings of overall speech success revealed no significant main effect of condition, $F(1, 33) < 1$, indicating that participants who had engaged in dysfunctional anticipatory processing prior to giving the speech had not underestimated the overall success of their speech more than participants in the distraction condition. As for ratings of performance, there was a significant main effect of group, $F(1, 33) = 9.18, p < .01$, indicating that high socially anxious individuals underestimated the overall success of their speeches significantly more than low socially anxious individuals ($M_s (SDs) = -1.96$ and -0.62 , for high and low socially anxious individuals respectively).

Overall, the results provided no evidence that individuals in the dysfunctional anticipatory processing condition underestimated their overall speech performance and the success of their speech more than participants in the distraction condition.

2.5. EXPERIMENT 2: SUMMARY OF THE MAIN FINDINGS

The findings from the present study generally suggest that individuals' subjective experience of anxiety before and during a feared social situation can be manipulated by engaging them in the anticipatory processes usually employed by socially anxious individuals. First, individuals who had been engaged in dysfunctional processing during the 20 minutes before giving the speech reported significantly higher levels of anxiety just before giving the speech than participants who had been distracted during that time. This effect was independent of participants' general levels of social anxiety. Second, participants who had been engaged in dysfunctional processing in the 20 minutes prior to giving the speech reported significantly higher levels of peak anxiety during the speech than participants who had been engaged in the distraction task. Third, contrary to Hypothesis 2.2., participants' ratings of confidence shortly before and retrospectively after the speech were not significantly affected by whether they had been engaged in dysfunctional processing or distraction while anticipating the speech. Finally, contrary to Hypothesis 2.3., participants who had engaged in dysfunctional processing before giving the speech did not underestimate their speech performance more than participants who had been engaged in the distraction task prior to giving the speech.

IV. DISCUSSION

The present study aimed to investigate the nature of dysfunctional anticipatory processing in social anxiety. First, the main findings from the two experiments will be summarised and discussed in relation to the hypotheses and research findings stated in the introduction. Next, limitations of the present study will be considered. Potential factors involved in the maintenance of dysfunctional processing will then be outlined, and an attempt will be made to explain the nature of dysfunctional anticipatory processing in social anxiety. The last sections of the chapter will consider implications of the present research findings for the treatment of social phobia. Finally, possibilities for future research will be highlighted.

1. SUMMARY AND DISCUSSION OF THE MAIN FINDINGS

1.1. Experiment 1

In agreement with Clark and Wells' (1995) hypotheses, the results from Experiment 1 showed that, while anticipating a feared social event, high socially anxious individuals were more likely than low socially anxious controls to report (1) recalling past perceived social failures, (2) constructing negative observer-perspective images of how they think they might appear to others in the forthcoming social event, (3) experiencing a greater number of bodily sensations and negative thoughts, and (4) interpreting their observed bodily sensations, negative thoughts and self-constructed images as having increased their anxiety and reduced their confidence that they would be able to make a good impression. Additional results showed that they were also more likely than low socially anxious individuals to try to analyse in detail what

might happen in the feared situation (e.g. by trying to think of everything that might happen, or imagining the worst that could happen), and to try to prepare themselves for these eventualities (e.g. by rehearsing conversations in their mind, or thinking of ways of how to put things right if they made a fool of themselves). Finally, high socially anxious individuals were shown to hold significantly more negative beliefs and assumptions about anticipatory social anxiety than low socially anxious individuals.

1.1.1. Hypothesis 1.1. Recall of past perceived social failures

Consistent with Hypothesis 1.1., the results confirmed that, while anticipating a specific social event, high socially anxious individuals were more likely to report retrieving memories of past perceived social failures compared to low socially anxious individuals. This finding is an important extension of Mansell and Clark's (1999) results, which showed that when asked to memorise and recall words describing how they might come across to others, high socially anxious individuals show a memory bias towards retrieving less positive public self-referent encoded words than low socially anxious individuals. The strength of Mansell and Clark's design is that it allows the controlled manipulation and assessment of memory. However, their findings provided no direct evidence that high socially anxious individuals actually retrieve memories of past perceived social failures while anticipating a feared social event. The present study focussed on actual past social experiences, and showed that high socially anxious individuals report a bias towards recalling past perceived failures. Taken together with the results from the

experimental study by Mansell and Clark, the present findings lend support to the hypothesis that high socially anxious individuals recall and dwell on negative memories in anticipation of a social event.

1.1.2. Hypothesis 1.2. Construction of negative observer-perspective images of the self

Consistent with Hypothesis 1.2., the present study found that high socially anxious individuals were significantly more likely than low socially anxious controls to report experiencing negative self-constructed observer-perspective images or impressions in anticipation of a feared social situation. Overall, this result mirrors findings by Hackmann et al. (1998), showing that during social situations social phobics were significantly more likely than non-client controls to report experiencing images. The present finding suggests that high socially anxious individuals and social phobics may experience spontaneous images/impressions not only during but also in anticipation of feared social events.

The present findings also mirror other recent findings by Hackmann and Clark (in preparation) about the nature and origin of spontaneously occurring images and impressions experienced during social situations. A majority of social phobics in Hackmann and Clark's study reported that their anticipatory images were recurrent and were able to link aspects of their images back to earlier memories. The authors concluded that recurrent images are common in social anxiety, and that these recurrent images can remain remarkably persistent over time, even in the light of corrective

information. The findings from the present study suggest that recurrent images and impressions are commonly experienced by both, high and low socially anxious individuals, in anticipation of feared social events, and that they often contain elements which can be linked back to earlier memories. Whether there are differences in the emotional valence of these memories remains to be investigated.

1.1.3. Hypothesis 1.3. Awareness of bodily sensations and negative thoughts

Contrary to Hypothesis 1.3., high and low socially anxious individuals did not differ in their reported awareness of bodily sensations while anticipating a social situation. However, high socially anxious individuals reported a greater number of bodily sensations and they tended to interpret their sensations more negatively. They were also more likely than low socially anxious controls to dwell on negative thoughts while anticipating a feared social event. Often these thoughts centred around the detailed analysis of what might happen in the feared situation and how the individual could prepare him- or herself for these eventualities. Thoughts of avoidance and/or escape from the anticipated situation were common. Furthermore, thoughts of catastrophisation (i.e. the interpretation of what they thought would happen in the situation as having global and negative implications for the self), were frequently reported by high but not low socially anxious individuals. Additional results from the questionnaires suggested that high socially anxious individuals held significantly more negative beliefs and assumptions about anticipatory anxiety than low socially anxious individuals. Taken together, these results suggest that high socially anxious

individuals experience more negative thoughts in anticipation of feared social events than low socially anxious individuals.

1.1.4. Hypothesis 1.4. Perceived effects of interoceptive information on levels of anxiety and confidence

In agreement with Hypothesis 1.4., the present study found that high socially anxious individuals were more likely than low socially anxious controls to interpret the bodily reactions, negative thoughts and images/impressions experienced during anticipation as having increased their anxiety and reduced their confidence that they would be able to make a good impression. This finding is in agreement with results from previous studies showing that, while being in a feared social situation, socially anxious individuals tend to use internally generated information to infer how anxious they appear to others and what others think of them (McEwan & Devins, 1983; Papageorgiou & Wells, 1997; Mansell & Clark, 1999). In line with the Clark and Wells (1995) model, the present findings suggest that socially anxious individuals use interoceptive information not only during, but also in anticipation of feared social situations, to predict how they will come across in the anticipated situation. The reliance on bodily sensations, negative thoughts and images to predict the outcome, means that high socially anxious individuals may be less likely to access positive information about how they are perceived by others.

1.2. Experiment 2

Although the findings from Experiment 1 were consistent with the cognitive model of social phobia, the results did not provide evidence that the kind of anticipatory processing that high socially anxious individuals engage in is dysfunctional. It was therefore decided to carry out a second experiment to investigate the effect of dysfunctional anticipatory processing on high and low socially anxious individuals' levels of anxiety and confidence before and during a feared social situation. The results showed that individuals who had engaged in dysfunctional anticipatory processing during the 20 minutes prior to giving a video-recorded speech, felt more anxious before and during the speech than individuals who had engaged in a distraction task. However, there was no evidence of an effect of dysfunctional anticipatory processing on levels of confidence. Furthermore, there was no support for the hypothesis that participants who had engaged in dysfunctional anticipatory processing prior to giving the speech were more likely to underestimate their speech performance relative to participants who had been engaged in the distraction task.

1.2.1. Hypothesis 2.1. Effects of dysfunctional anticipatory processing and distraction on ratings of anxiety before and during the speech

In agreement with Hypothesis 2.1., the results indicated that participants who engaged in dysfunctional anticipatory processing during anticipation, were more anxious shortly before and during the speech. This finding validates the results from

Experiment 1, suggesting (1) that the processing style that high socially anxious individuals engage in is indeed dysfunctional, and (2) that the nature of anticipatory processing strongly affects levels of anxiety before and during social events. One reason why anxiety did not increase in the dysfunctional processing condition from time one to time two might be that individuals, if suddenly told that they have to give a speech, normally find ways of adjusting to this circumstance over time, unless one is not allowing them to. A sensible extension of the present study would be the inclusion of a second control group. For example, including a functional anticipatory processing condition (i.e. asking high and low socially anxious individuals to engage in the anticipatory cognitive processes employed by socially confident individuals) may help to determine whether these cognitive strategies can help to reduce anticipatory anxiety.

1.2.2. Hypothesis 2.2. Effects of dysfunctional anticipatory processing and distraction on ratings of confidence before and during the speech

Contrary to Hypothesis 2.2., the present study found no evidence of a reduction of confidence in the dysfunctional anticipatory processing condition. Similarly, engaging in the distraction task did not significantly affect participants levels of confidence. These findings suggest that levels of social confidence remain unaffected by changes in levels of anxiety. If confidence remains stable even as anxiety increases, it could be hypothesised that some high socially anxious individuals avoid social situations because of their anxiety, despite feeling relatively confident about their ability to (potentially) make a good impression. The issue seems complex and further research

will be required to clarify the differential effects of dysfunctional anticipatory processing and distraction on individuals' feelings of confidence and anxiety.

1.2.3. Effects of dysfunctional anticipatory processing and distraction on high versus low socially anxious individuals

The results from Experiment 2 showed that levels of anxiety and confidence in the dysfunctional processing condition were not significantly affected by participants' high or low FNE status. Initially, this may seem a puzzling result. However, it should be taken into account that low socially anxious individuals do not normally engage in this processing style. The present results suggest that dysfunctional anticipatory processing will lead to an increase in anxiety in anybody who engages in it. The main difference between high and low socially anxious individuals is therefore not in the effects of dysfunctional anticipatory processing on anxiety, but rather in the extent to which they are likely to engage in this particular type of anticipatory processing in the first place. If, as the present results would suggest, anticipatory processing is a more powerful determinant of anticipatory anxiety than general levels of social anxiety, this would suggest that it may be possible to reduce anticipatory anxiety by helping socially anxious individuals to engage in more functional anticipatory processing.

2. LIMITATIONS OF THE PRESENT STUDY

The two experiments presented in this dissertation have several limitations which will need to be addressed in future research.

First, the research in this dissertation was based on analogue populations. It is therefore not entirely clear to what degree the present results can be generalised to clients suffering from social phobia. The present two studies assumed that high social anxiety in the non-clinical population lies on continuum with social phobia. One would expect social phobics to show similar, although possibly stronger cognitive biases to those shown by the high social anxiety group. Future research will need to show that similar results can be obtained with socially phobic clients.

Second, a clear limitation of Experiment 1 is that information about anticipatory social anxiety was obtained retrospectively. Participants' memories of the cognitive processes they had engaged in while anticipating a specific social situation may have been affected by their memories of what went through their mind during or after the event. However, the results from Experiment 2 provided some evidence that dysfunctional anticipatory processing as described by high socially anxious individuals in Experiment 1 can lead to an increase in social anxiety. This would suggest that high socially anxious individuals' recollections of their anticipatory processing were largely accurate. The issue could be further investigated *in vivo* by asking participants to provide an on-line report on their anticipatory processing following a threat induction (e.g. having to talk to a stranger in 20 minutes' time).

Third, another limitation of Experiment 1 is that the semi-structured interview had no established validity and reliability. With regard to construct validity, the questions in the interview were informed by Clark and Wells (1995) theoretical model and the

results seem to provide support for the validity of the questionnaire and the cognitive model. Because of the one-hour length of the interview, inter-rater reliability was difficult to assess within the time constraints of the project. It is therefore not known whether exactly the same results would be obtained by another assessor. Further research needs to be carried out to investigate whether similar findings can be obtained using different methodologies.

Fourth, in Experiment 2 only one type of social-evaluative situation was investigated. Public speaking was chosen because it is the most commonly feared social situation (Rapee, 1995). It is assumed that anticipatory processing would be similar in other social situations, such as having a conversation with a stranger. However, as yet this still remains to be demonstrated.

Finally, the mixed-model design used in Experiment 2 carried the problem of a significant order effect, reflecting stronger effects of both distraction and anticipatory processing on anxiety prior and during the first speech. However, the fact that the overall effects of either condition on participants' ratings of anxiety were still significant suggests that there was a strong overriding effect of condition over order.

3. WHAT MAINTAINS DYSFUNCTIONAL ANTICIPATORY PROCESSING?

If dysfunctional anticipatory processing increases high socially anxious individuals' levels of anxiety prior to and during feared social events, why do they continue to use this strategy? Experiment 1 found that dysfunctional anticipatory processing involves

rumination on past and future negative outcomes. This would suggest that research on worry may be able to provide some of the answers. In a recent review of worry, Borkovec, Ray and Stöber (1998) conclude that worry has two main functions: (1) the cognitive avoidance of threat and (2) the inhibition of emotional processing. In the following section, I will discuss the possible role of these processes in the maintenance of dysfunctional anticipatory processing in social anxiety.

3.1. Reduction of somatic and emotional responses to threatening imagery

Worry about future events can significantly reduce somatic reactions to threatening imagery. For example, Borkovec, Lyonfields, Wisner and Diehl (1993) showed that in response to phobic imagery, the amount of thinking carried out by clients predicted the degree to which physiological responses (i.e. heart rate) were reduced. This suggests that high socially anxious individuals may use worry in response to spontaneous negative imagery to reduce the emotional distress associated with these images, and the physical symptoms of anxiety. This may be particularly desirable for high socially anxious individuals, as they seem to attach a significantly more negative meaning to the presence of images and bodily sensations than low socially anxious individuals.

Another way in which worry has been found to reduce somatic and emotional responses to fearful imagery, is by reducing its concreteness and allowing the individual to think about the future in more abstract terms (e.g. "something terrible will happen") (Stöber, 1997). With regard to dysfunctional anticipatory processing, it

could be hypothesised that ruminating about past perceived failures and possible negative future outcomes may help high socially anxious individuals to reduce unwanted concrete images of anticipated social failure and its long-term negative consequences.

3.2. Avoidance and preparation for feared future events

When trying to prepare for a stressful event, concreteness is essential. However, the low concreteness associated with worry is unlikely to enable individuals to arrive at a solution to their problems. As a consequence, the feeling of threat with regard to the anticipated event is preserved, and worry continues. Borkovec et al. (1998) argue that the reason why anxious individuals often continue to think that worrying involves problem-solving, is that they have no alternative strategy available. The anticipated threat often exists only in the person's mind and refers to an event that is as yet non-existent, cannot be controlled, and may not happen anyway. Mental avoidance or preparation appear to be the only two coping responses available. If the person later faces the feared situation, and the worst outcome does not occur, worry is likely to be negatively reinforced in that over time a superstitious association of worry with the non-occurrence of worst possible outcomes may occur. This may be one way in which dysfunctional anticipatory processing is maintained and reinforced in social anxiety.

Borkovec et al. (1998) have noted that worry often reflects the presence of maladaptive beliefs and assumptions. For example, social phobics' concerns about poor performance and negative reactions by others, are only negative to the extent that

they increase the potential occurrence of even more significant negative events. It is not the negative evaluation by others *per se*, but the anticipated long-term consequences of the negative evaluation that are feared by the individual (e.g. abandonment, loss of job). The findings from the present study showed that thoughts of catastrophisation were more frequent in high compared to low socially anxious individuals. However, often these bottom-line fears were not stated directly by high socially anxious individuals, but implicit in their accounts of what they feared might happen.

3.3. Inhibition of emotional processing

Foa and Kozak (1986) have argued that, for repeated exposures to feared stimuli to be therapeutic, emotional processing is essential. Absence of a physiological response during the presentation or anticipation of a feared stimulus can be taken as evidence that fear structures stored in memory have not been accessed and that an extinction of the anxiety will not take place. This highlights that clients do not only have to confront their fears to overcome them, but that they also have to *feel* their fears during confrontation. Worry has been found to inhibit the emotional processing of feared events and to lead to a maintenance or even an increase in the emotional disturbance created by those events over time (Borkovec et al., 1998). With regard to the present results, this suggests that rumination on past perceived failures and possible negative future outcomes may inhibit the emotional processing of past and future social events and thereby maintain or even increase levels of anticipatory anxiety.

3.4. Summary of findings from research on worry

Dysfunctional anticipatory processing may offer some short-term benefits to high socially anxious individuals, in that, like worry, it may act as a form of cognitive avoidance to emotionally distressing material through (1) the attenuation of negative emotional and somatic responses to self-constructed images, (2) the reduction of concreteness of these images, and (3) the distraction from more distressing underlying beliefs and assumptions. However, the long-term negative consequences of cognitive avoidance appear to be that it (1) inhibits the emotional processing of the feared social event, and (2) leads to a superstitious association of dysfunctional anticipatory processing with the non-occurrence of the worst social outcomes, thereby maintaining high levels of anticipatory anxiety and the use of dysfunctional processing as a strategy.

4. A COGNITIVE APPROACH TO THE MAINTENANCE OF DYSFUNCTIONAL ANTICIPATORY PROCESSING IN SOCIAL ANXIETY

On the basis of the evidence reviewed in the preceding sections and the results from the present study, it could be hypothesised that dysfunctional anticipatory processing proceeds in several stages. First, the acknowledgement of the anticipated social situation as dangerous, may trigger thoughts and images of similar past social situations, in which the individual believes to have failed. At the same time, the perception of danger is likely to trigger somatic symptoms of anxiety, which may be

interpreted as a further sign of danger. On the basis of their recollections of past perceived social failures and their somatic symptoms of anxiety, the socially anxious individual may then construct an image of how they think they will appear in the forthcoming social situation. In order to reduce the emotional distress associated with the image and to prepare for the potential negative long-term consequences of social failure, they may start ruminating about (1) what went wrong in the past perceived social failures, (2) how a similar negative outcome can be avoided in the anticipated situation (preparation or avoidance), (3) how to prepare for the anticipated situation to achieve the desired positive outcome, (4) what to do if one fails to achieve the desired outcome (trying to put things right or escape), and (5) the long-term negative consequences of social failure in the anticipated situation (catastrophisation). Once started, rumination may keep the anticipatory anxiety going through (1) a temporary reduction of the emotional impact of the self-constructed image and the somatic symptoms, (2) the superstitious association of (past) rumination with the non-occurrence of the worst possible outcomes, and (3) by inhibiting full emotional processing of past and anticipated future social events.

5. IMPLICATIONS FOR TREATMENT

Recently developed cognitive-behavioural treatment techniques for social anxiety have largely focussed on helping clients to correct distorted images of how they think they appear to others in social situations (Clark & Wells, 1995; Clark, 1997; Wells, 1997). So far, no specific treatment strategies for anticipatory social anxiety have been developed. What makes treatment difficult, is that the person's fear of what might

happen in the situation cannot be directly disconfirmed by comparing their self-constructed image with a more objective (i.e. video) image of themselves in the situation. The results from the present study have shown that simple distraction can be effective in reducing anticipatory social anxiety. However, it is possible that other, more specific strategies may be even more effective. The findings from the present study suggest that cognitive-behavioural treatment for anticipatory anxiety may focus on (1) transforming the meaning of memories of perceived social failures, (2) challenging the effectiveness of dysfunctional processing as a preparation strategy, (3) challenging the perceived long-term negative consequences of social failure, and (4) facilitating the emotional processing of feared social events. The application of these strategies will be discussed in more detail below.

5.1. Transforming the meaning of memories of perceived social failures

One treatment implication of the current findings is, that it might be possible to work directly on the early memories of perceived social failures. Hackmann and Clark (in preparation) have suggested that therapists should get clients to relive their memories in chronological order to access distorted meanings, which may be colouring the individual's perception of the present and which have not been updated. It may also be sensible to try to transform the memory in a way that gives it a less overgeneralised meaning. This could then lead to ideas about behavioural experiments which may help the individual to test the predictions he or she has derived from the memory with regard to similar situations. Hackmann and Clark suggest that this type of intervention

could be done in imagery, following which the client may be helped to discover new perspectives with the help of guided imagery.

5.2. Challenging the effectiveness of dysfunctional processing as a preparation strategy

The results from Experiment 1 have highlighted some of the cognitive processes that low socially anxious (i.e. socially confident) individuals engage in while anticipating social events. Several items were given high positive ratings by this group: First, low socially anxious participants were significantly more likely than high socially anxious participants to report selectively recalling and dwelling on past perceived social successes. Second, low socially anxious participants reported dwelling significantly more on positive outcomes than high socially anxious participants. Third, results from Questionnaire Two indicated that they a greater tendency to 'try to think positively' and 'imagine the good things that could happen' in anticipation of a feared social event. On the basis of these findings, we have developed a set of instructions, which require individuals to engage in *functional* anticipatory processing. Apart from being potentially useful for further research, these instructions could also be applied in the cognitive-behavioural treatment of social phobia. For example, having established that a client engages in dysfunctional anticipatory processing, the therapist may present the rationale for abandoning this processing style. As part of a behavioural experiment, the client could then be encouraged to follow the steps for functional and dysfunctional anticipatory processing in anticipation of two moderately difficult social situations. Asking the client to rate his or her anxiety before, during and after these

events may help to establish which of the two strategies is more effective in reducing anxiety.

5.3. Challenging the perceived long-term negative consequences of social failure

Clients' beliefs about the potential long-term negative consequences of social failure in an specific anticipated situation may be explored by reviewing worst case scenarios. This can help to access beliefs and assumptions about the long-term negative consequences of social failure. The therapist may then try to challenge the validity of these beliefs and assumptions, and the likelihood of the worst case scenarios occurring. Imagery may also be useful in this respect. Research has found that clients' images of what they fear will happen often only capture the worst moment. Asking clients to run a worst case scenario through to the end may help them to gain a more realistic perspective on what the actual consequences would be, and allow them to develop more concrete strategies for coping. An alternative intervention might be to help clients consider the positive things that could happen in the situation. Given the present evidence for a memory bias in social phobia, the therapist should be aware that evidence for the client's ability to cope with feared social situations, may so far have been outside his or her awareness. Helping clients to access these positive recollections may enable them to consider some of the more positive potential outcomes for the anticipated situation. Finally, as confidence seems to remain unaffected by individuals' subjective experience of anxiety, refocussing clients on feelings of confidence may offer some benefits.

5.4. Facilitating the emotional processing of social events

If one negative consequence of dysfunctional anticipatory processing is the inhibition of emotional processing before and after feared social events, therapeutic intervention may try to focus directly on facilitating the emotional processing of anticipated social events. In a recent article, Teasdale (1999) has argued that emotional material can be processed in three mental modes. First, in 'mindless emoting' individuals are immersed in their affective responses, have little self-awareness and engage in little internal exploration or reflection. Teasdale cites evidence by Greenberg and Safran (1987) indicating that this mental processing mode is predictive of poor therapeutic outcome. Second, in 'conceptualising/doing' mode, individuals' awareness is dominated by detached thoughts about goal-related strategies of how to deal with an emotion-related problem, and by evaluations of present-ideal discrepancies with relation to this goal. This type of thinking is often concerned with the past or the future rather than with immediate present experience. As for mindless emoting, this mode of operating is associated with poor therapeutic outcome. Dysfunctional anticipatory processing seems to correspond to this mode in that the individual thinks about the anticipated social event in a detached way, thereby avoiding emotional engagement. Finally, the 'mindful experiencing/being' mode involves a cognitive and emotional exploration of the mind, with the use of present feelings and 'felt senses' as guides to problem solution, and a non-evaluative awareness of the present subjective self-experience. Teasdale argues that only mindful experiencing/being facilitates emotional processing, and is predictive of successful therapeutic outcome. He points

out that therapists can help clients to learn skills to enter the mindful experiencing/being mode by teaching them ‘mind mode switching skills’ derived from mindfulness meditation. Teasdale describes the essence of mindful experiencing as becoming “fully aware of our experience at each moment (...) and free of the domination of habitual, automatic, cognitive routines that are often goal oriented and (...) related to wanting things to be other than they are.” (Teasdale, 1999; p. 71). A simple mindfulness exercise is “mindful breathing”. This exercise requires the individual to focus attention solely on their breathing for a prolonged period of time. Whenever they notice that their mind has become preoccupied with something other than their breathing, they are instructed to non-judgmentally acknowledge what it was that took their attention away and then to bring their attention back to their breathing. Teasdale, Segal, Williams et al. (submitted for publication), have recently attempted to combine aspects of mindfulness meditation with cognitive therapy by developing a mindfulness-based form of cognitive therapy (MBCT), which aims to teach clients attentional skills that can help them to disengage from dysfunctional processing modes. Although originally developed for clients who have recovered from depression and wish to learn skills to reduce relapse, MBCT may be usefully applied to the treatment of anticipatory social anxiety. For example, asking clients to engage in the breathing exercise described above during the half hour before entering a feared social event, may help them to fully engage with the anticipated event at an emotional level, and thereby reduce anticipatory anxiety.

6. RECOMMENDATIONS FOR FUTURE RESEARCH

First, future research may try to establish whether anticipatory rumination in high socially anxious individuals follows the occurrence of spontaneous negative imagery and somatic symptoms. Second, it would be of interest to explore whether anticipatory rumination does indeed have the effect of reducing the impact associated with negative images and bodily sensations experienced in anticipatory social anxiety. Third, it may be worth investigating whether thought in dysfunctional anticipatory processing lacks concreteness, as has been suggested in this discussion. Fourth, with regard to underlying assumptions and beliefs about the anticipated long-term negative consequences of social failure, further research could try to specify how these are related to early memories of social events, and the processes which maintain the recurrent images which are based on these experiences. Finally, with regard to treatment, intervention studies may look at the effects of functional anticipatory processing (e.g. using the cognitive strategies employed by socially confident individuals) and/or the use of mindfulness meditation techniques on individuals' levels of anxiety before and during social situations. A follow-up to the present study should include a functional processing control group, to investigate whether engaging with the anticipatory anxiety in more adaptive ways can offer some benefits over distraction.

V. REFERENCES

- APA (American Psychiatric Association) (1980). *Diagnostic and Statistical Manual of Mental Disorders*, (3rd edn). Washington DC: APA.
- APA (American Psychiatric Association) (1987). *Diagnostic and Statistical Manual of Mental Disorders*, (3rd edn revised). Washington DC: APA.
- APA (American Psychiatric Association) (1994). *Diagnostic and Statistical Manual of Mental Disorders*, (4th edn). Washington DC: APA.
- Asmundson, G. J. G. & Stein, M. B. (1994). Selective processing of social threat in patients with generalised social phobia: Evaluation using a dot-probe paradigm. *Journal of Anxiety Disorders*, 8, 107-111.
- Ball, S. G., Otto, M. W., Pollack, M. H., Uccello, R. & Rosenbaum, J. F. (1995). Differentiating social phobia and panic disorder: A test of core beliefs. *Cognitive Therapy and Research*, 19, 473-482.
- Beck, A. T., Emery, G. & Greenberg, R. L. (1985). *Anxiety disorders and phobias: A cognitive perspective*. New York: Basic Books.
- Borkovec, T. D., Ray, W. J. & Stöber, J. (1998). Worry: A cognitive phenomenon intimately linked to affective, physiological and interpersonal behavioural processes. *Cognitive Therapy and Research*, 22, 561-576.
- Borkovec, T. D., Lyonfields, J. D., Wiser, S. L. & Diehl, L. (1993). The role of worrisome thinking in the suppression of cardiovascular response to phobic imagery. *Behaviour Research and Therapy*, 31, 321-324.
- Bryant, B. & Trower, P. E. (1974). Social difficulty in a student sample. *British Journal of Educational Psychology*, 44, 13-21.
- Butler, G., Cullington, A., Munby, M., Amies, P. L. & Gelder, M. G. (1984). Exposure and anxiety management in the treatment of social phobia. *Journal of Consulting and Clinical Psychology*, 59, 167-175.
- Chapman, T. E., Mannuzza, S. & Fyer, A. J. (1995). Epidemiology and family studies of social phobia. In R. G. Heimberg, M. Liebowitz, D. A. Hope & F. R. Schneier (Eds), *Social phobia: Diagnosis, assessment and treatment*, pp. 21-40. New York: Guilford Press.
- Clark, D. M. (1997). Panic disorder and social phobia. In D. M. Clark & C. G. Fairburn (Eds), *Science and practice of cognitive behaviour therapy*, pp. 121-153. Oxford: Oxford University Press.

- Clark, D. M. (1999). Anxiety disorders: Why they persist and how to treat them. *Behaviour Research and Therapy*, 37, 5-27.
- Clark, D. M. & Wells, A. (1995). A cognitive model of social phobia. In R. G. Heimberg, M. Liebowitz, D. A. Hope & F. R. Schneier (Eds), *Social phobia: Diagnosis, assessment and treatment*, pp. 69-93. New York: Guilford Press.
- Clark, D. M., Mansell, W. J. K., Chen, Y. P. & Ehlers, A. (1999). *Social anxiety and attention for faces*. Manuscript in preparation.
- Clark, D. M., Butler, G., Fennell, M., Hackmann, A., McManus, F. & Wells, A. (1995). *Social Behaviour Questionnaire*. Unpublished questionnaire.
- Clark, D. M., Wells, A., Fennell, M., Butler, G., Hackmann, A. & McManus, F. (1995). *Social Attitudes Questionnaire*. Unpublished questionnaire.
- Daly, J. A., Vangelisti, A. L. & Lawrence, S. G. (1989). Self-focussed attention and public speaking anxiety. *Personality and Individual Differences*, 10, 903-913.
- First, M. B., Spitzer, R. L., Gibbon, M. & Williams, J. B. W. (1995). *Structured clinical interview for DSM-IV (SCID-I; January 1995 final)*. (Available from the authors at Biometrics Research Department, New York State Psychiatric Institute, 722 West 168 Street, New York, NY 10032.)
- Foa, E. B. (1995). *Inventory of Social Interactions*. Unpublished questionnaire.
- Foa, E. B. & Kozak, M. J. (1986). Emotional processing of fear: Exposure to corrective information. *Psychological Bulletin*, 99, 20-35.
- Greenberg, L. S. & Safran, J. D. (1987). *Emotion in psychotherapy*. New York: Guilford Press.
- Hackmann, A., Surawy, C. & Clark, D. M. (1998). Seeing yourself through others' eyes: A study of spontaneously occurring images in social phobia. *Behavioural and Cognitive Psychotherapy*, 26, 3-12.
- Hackmann, A. & Clark, D. M. (1998). *Recurrent images and early memories in social phobia*. Manuscript in preparation.
- Heimberg, R. G. & Juster, H. R. (1995). Cognitive-behavioural treatments: Literature review. In R. G. Heimberg, M. Liebowitz, D. A. Hope & F. R. Schneier (Eds), *Social phobia: Diagnosis, assessment and treatment*, pp. 261-309. New York: Guilford Press.
- Hope, D. A., Heimberg, R. G. & Bruch, M. A. (1990). *The importance of cognitive interventions in behavioural group therapy for social phobia*. Paper presented at the 10th National Conference on Phobias and Related Anxiety Disorders, Bethesda, MD.

- Hope, D. A., Heimberg, R. G. & Klein, J. F. (1990). Social anxiety and the recall of interpersonal information. *Journal of Cognitive Psychotherapy*, 4, 185-195.
- Kessler, R. C., McGonagle, K., Zhao, S., Nelson, C., Hughes, M., Eschlemann, S., Wittchen, H.-U. & Kendler, K. S. (1994). Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States: Results from the National Comorbidity Survey. *Archives of General Psychiatry*, 51, 8-19.
- Mansell, W. J. K. (1997). *Cognitive processes in social anxiety and social phobia*. Unpublished DPhil thesis, Oxford University, Oxford.
- Mansell, W. J. K. & Clark, D. M. (1999). How do I appear to others? Social anxiety and biased processing of the observable self. *Behaviour Research and Therapy*, 37, 419-434.
- Mansell, W. J. K., Clark, D. M. & Ehlers, A. (1999). *Attention to internal versus external cues in social anxiety: an investigation with a novel paradigm*. Manuscript in preparation.
- Marks, I. M. & Gelder, M. G. (1966). Different ages of onset in varieties of phobia. *American Journal of Psychiatry*, 123, 218-221.
- Mattick, R. P. & Peters, L. (1988). Treatment of severe social phobia: Effects of guided exposure with and without cognitive restructuring. *Journal of Consulting and Clinical Psychology*, 56, 251-260.
- Mattick, R. P., Peters, L. & Clarke, J. C. (1989). Exposure and cognitive restructuring for social phobia: A controlled study. *Behaviour Therapy*, 20, 3-23.
- McEwan, K. L. & Devins, G. M. (1983). Is increased arousal in social anxiety noticed by others? *Journal of Abnormal Psychology*, 92, 417-421.
- Papageorgiou, C. & Wells, A. (1997). *Social self-perception: effects of false heart-rate feedback in socially anxious subjects*. Paper presented at the 25th Anniversary Conference of the British Association for Behavioural and Cognitive Psychotherapy, Canterbury, U.K.
- Rapee, R. M. (1995). Descriptive psychopathology of social phobia. In R. G. Heimberg, M. Liebowitz, D. A. Hope & F. R. Schneier (Eds), *Social phobia: Diagnosis, assessment and treatment*, pp. 41-66. New York: Guilford Press.
- Rapee, R. M. & Lim, L. (1992). Discrepancy between self- and observer ratings of performance in social phobics. *Journal of Abnormal Psychology*, 101, 728-731.
- Rapee, R. M., McCallum, S. L., Melville, L. F., Ravenscroft, H. & Rodney, J. M. (1994). Memory bias in social phobia. *Behaviour Research and Therapy*, 32, 89-99.

- Solyom, L., Ledwidge, B. & Solyom, C. (1986). Delineating social phobia. *British Journal of Psychiatry*, 149, 464-470.
- Spielberger, C. D., Gorsuch, R. L., Lushene, R. E., Vagg, P. R. & Jacobs, G. A. (1983). *Manual for the State-Trait Anxiety Inventory*. Palo Alto, CA: Consulting Psychologists Press.
- Stein, M. B., Walker, J. R. & Forde, D. R. (1994). Setting diagnostic thresholds for social phobia: Considerations from a community survey of social anxiety. *American Journal of Psychiatry*, 151, 408-412.
- Stöber, J. (1997). *Worry and problem elaboration: Reduced concreteness and imagery for worrisome topics*. Paper presented at the Annual Meeting of the Association for the Advancement of Behaviour Therapy, Miami.
- Stopa, L. & Clark, D. M. (1993). Cognitive processes in social phobia. *Behaviour Research and Therapy*, 31, 255-267.
- Stopa, L. & Clark, D. M. (in press). Social phobia and the interpretation of social events. *Behaviour Research and Therapy*.
- Teasdale, J. D. (1999). Emotional processing, three modes of mind and the prevention of relapse in depression. *Behaviour Research and Therapy*, 37, 53-77.
- Teasdale, J. D., Segal, Z. V., Williams, J. M. G., Ridgeway, V. A., Soulsby, J. M. & Lau, M. A. (1999). *Prevention of relapse/recurrence in major depression by mindfulness-based cognitive therapy*. Manuscript submitted for publication.
- Turner, S. M., Beidel, D. C., Dancu, C. V. & Stanley, M. A. (1989). An empirically derived inventory to measure social fears and anxiety: The Social Phobia and Anxiety Inventory. *Journal of Consulting and Clinical Psychology*, 1, 35-40.
- Wacker, H. R., Mülleijans, R., Klein, K. H. & Battegay, R. (1992). Identification of cases of anxiety disorders and affective disorders in the community according to ICD-10 and DSM-III-R by using the Composite International Diagnostic Interview (CIDI). *International Journal of Methods in Psychiatric Research*, 2, 91-100.
- Watson, D. & Friend, R. (1969). Measurement of social-evaluative anxiety. *Journal of Consulting and Clinical Psychology*, 33, 448-457.
- Wells, A. (1997). *Cognitive therapy of anxiety disorders: A practice manual and conceptual guide*. Chichester: John Wiley & Sons.
- Wells, A., Clark, D. M., Salkovskis, P. M., Ludgate, J., Hackmann, A. & Gelder, M. G. (1995). Social phobia: The role of in-situation safety behaviours in maintaining anxiety and negative beliefs. *Behaviour Therapy*, 26, 153-161.

- Woody, S. R., Chambless, D. L. & Glass, C. R. (1997). Self-focussed attention in the treatment of social phobia. *Behaviour Research and Therapy*, 35, 117-130.
- Zimbardo, P. G. (1977). *Shyness: What it is, what to do about it*. Reading, MA: Addison Wesley.

VI. APPENDICES

<i>APPENDIX I:</i>	Fear of Negative Evaluation Scale (FNE)
<i>APPENDIX II:</i>	State-Trait Anxiety Inventory - trait subscale (STAI)
<i>APPENDIX III:</i>	Letters of approval from the two local Ethics committees
<i>APPENDIX IV:</i>	Information sheet - Experiment 1
<i>APPENDIX V:</i>	Consent form
<i>APPENDIX VI:</i>	Semi-structured interview
<i>APPENDIX VII:</i>	Inventory of Social Interactions (ISI)
<i>APPENDIX VIII:</i>	Questionnaire One (SOCSIT)
<i>APPENDIX IX:</i>	Social Behaviour Questionnaire (SBQ)
<i>APPENDIX X:</i>	Questionnaire Two (SOCBEH)
<i>APPENDIX XI:</i>	Social Attitudes Questionnaire (SAQ)
<i>APPENDIX XII:</i>	Questionnaire Three (SOCAT)
<i>APPENDIX XIII:</i>	Information sheet - Experiment 2
<i>APPENDIX XIV:</i>	Behaviour Checklist (Performance questionnaire)
<i>APPENDIX XV:</i>	Insect Questionnaire

APPENDIX I

FNE		True	False
1.	I rarely worry about seeming foolish to others	.....	.....
2.	I worry about what people think of me, even when I know it doesn't make any difference	.....	.....
3.	I become tense and jittery if I know someone is sizing me up	.....	.....
4.	I am unconcerned even if I know people are forming an unfavourable impression of me	.....	.....
5.	I feel very upset when I commit some social error	.....	.....
6.	The opinions that important people have of me cause me little concern	.....	.....
7.	I am often afraid that I may look ridiculous or make a fool of myself	.....	.....
8.	I react very little when other people disapprove of me	.....	.....
9.	I am frequently afraid of other people noticing my shortcomings	.....	.....
10.	The disapproval of others would have little effect on me	.....	.....
11.	If someone is evaluating me I tend to expect the worse	.....	.....
12.	I rarely worry about what kind of impression I am making on someone	.....	.....
13.	I am afraid that others may not approve of me	.....	.....
14.	I am afraid that other people will find fault with me	.....	.....
15.	Other people's opinions of me do not bother me	.....	.....
16.	I am not necessarily upset if I do not please someone	.....	.....
17.	When I am talking to someone, I worry about what they may be thinking about me	.....	.....
18.	I feel that you can't help making social errors sometimes, so why worry about it	.....	.....
19.	I am usually worried about what kind of impression I make	.....	.....
20.	I worry a lot about what my superiors think of me	.....	.....
21.	If I know someone is judging me, it has little effect on me	.....	.....
22.	I worry that others will think I am not worthwhile	.....	.....
23.	I worry very little about what others think of me	.....	.....
24.	Sometimes I think I am too concerned with what other people think of me	.....	.....
25.	I often worry that I will say or do the wrong things	.....	.....
26.	I am often indifferent to the opinions others have of me	.....	.....
27.	I am usually confident that others will have a favourable impression of me	.....	.....
28.	I often worry that people who are important to me won't think very much of me	.....	.....
29.	I brood about the opinions my friends have about me	.....	.....
30.	I become tense and jittery if I know I am being judged by my superiors	.....	.....

APPENDIX II

SELF-EVALUATION QUESTIONNAIRE

STAI Form Y-2

Name _____ Date _____

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate how you *generally* feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

	ALMOST NEVER	SOMETIMES	OFTEN	ALMOST ALWAYS
21. I feel pleasant	①	②	③	④
22. I feel nervous and restless	①	②	③	④
23. I feel satisfied with myself	①	②	③	④
24. I wish I could be as happy as others seem to be	①	②	③	④
25. I feel like a failure	①	②	③	④
26. I feel rested	①	②	③	④
27. I am "calm, cool, and collected"	①	②	③	④
28. I feel that difficulties are piling up so that I cannot overcome them	①	②	③	④
29. I worry too much over something that really doesn't matter	①	②	③	④
30. I am happy	①	②	③	④
31. I have disturbing thoughts	①	②	③	④
32. I lack self-confidence	①	②	③	④
33. I feel secure	①	②	③	④
34. I make decisions easily	①	②	③	④
35. I feel inadequate	①	②	③	④
36. I am content	①	②	③	④
37. Some unimportant thought runs through my mind and bothers me	①	②	③	④
38. I take disappointments so keenly that I can't put them out of my mind	①	②	③	④
39. I am a steady person	①	②	③	④
40. I get in a state of tension or turmoil as I think over my recent concerns and interests	①	②	③	④

APPENDIX III

Manor House
Headley Way, Headington
Oxford OX3 9DZ

Tel: 01865 222692/222547
Fax: 01865 222699

Our Ref. OB/PT/98.21

6 May

Professor David M Clark
Department of Psychiatry
Warneford Hospital
Oxford OX3 7JX

Dear David

Re: OPREC O98.21 - Anticipatory processing in social anxiety.

Your proposal was discussed at the OPREC meeting on 5 May 1998. Ethical approval was granted subject to the following conditions:

1. The information sheets are written on headed note paper and appendix F should mention that they will be asked to give 2 short speeches which would be videoed. (EF)
2. The consent form should be written on headed note paper. ✓
3. The committee were interested in what particular topics you would ask the subjects to speak on and particularly whether these could be regarded as personally intrusive.

Kind Regards

Yours sincerely



David Geaney
Chairperson
Oxfordshire Psychiatric Research Ethics Committee

Chairperson: Dr D. Geaney

OXFORD
BROOKES
UNIVERSITY



Mr H Hinrichsen
Oxford Regional Training Course for Clinical Psychology
Isis Education Centre
Warneford Hospital
Headington
Oxford OX3 7JX

44 London Road
Headington Oxford OX3 7PD

Tel: 01865 485275/8 (direct line)
Reception Tel: 01865 485294
Fax: 01865 485297

Professor Helen Bartlett BA MSc PhD RGN RHV
Director

11 May 1998

Dear Mr Hinrichsen,

Research Proposal - Anticipatory processing in Social Anxiety

Thank you for sending your proposal for our consideration. It has been received by the School Research Committee and approval is granted for you to proceed subject to the conditions listed in the attached paper.

I would be grateful if you could liaise with Jennifer Butler about the conditions before proceeding with the study.

Yours sincerely,



Professor Helen Bartlett
Director of Research

cc. Jennifer Butler, Dorset House

School of Health Care Research Committee

Hendrick Hinrichsen - Anticipatory processing in social anxiety

Areas of concern/additions to protocol.

1. You do not say how you would anticipate recruiting students from Oxford

Brookes. A poster asking for volunteers, together with an information letter which can be picked up by anyone interested is one method which we would be happy to comply with. Alternatively arrangements could be made for you to give a short (3-5 minute) presentation at the end of a lecture explaining the research and what the research volunteers would be requested to do. Then anyone wanting to volunteer could pick up the information letter, and contact you later if they so chose.

This aspect of the research needs to be considered and you can contact me on 01865-485274 to make such arrangements.

2. The recruitment letter (appendix A) needs some changes. In paragraph 2, rather than *'it would be helpful if you could'* we suggest replacement with *'If you would like to take part in the study please would you....'*

In paragraph 3, after 'give a short speech', the letter should state that this speech (and a **second** one) would be in front of people and would be video-taped, so that it is transparent what is being volunteered for. Also the letter should indicate, after 'Further details will (would) be provided', that they would be free to leave the study at any stage without giving a reason and without it affecting the way they are regarded in any way.

As a matter of course, all *'will'* words should be changed to *'would'* (otherwise it presupposes that the person is going to volunteer).

3. There is potential distress for 'high-anxiety' participants in giving the 2 speeches and being judged upon their performance. What mechanisms are in place for managing any distress that might arise?
4. Appendices E and F - information sheets. All '*will*' words must be changed to '*would*'. Add in 'without giving a reason' to the end of paragraph 4.
5. A separate consent form would need to be signed for each part of the study; consenting to the first part should not automatically assume the person consents to the second part of the study.
6. Can you give examples of the kind of topics the participants would be asked to speak on.

APPENDIX IV

UNIVERSITY OF OXFORD

DEPARTMENT OF PSYCHIATRY



WARNEFORD HOSPITAL
OXFORD
OX3 7JX

TEL. (01865) 741717 ext. 26-

TEL. direct line (01865) 2264-

FAX. (01865) 793101

This study investigates the way in which different people think in a variety of social situations.

The study consists of an interview, in which you will be asked a series of questions about how you think and feel in social situations.

The whole interview should take about 60 minutes.

You will not need to answer questions if you do not want to, and you will be free to withdraw from the interview at any time.

The information you provide will be treated as strictly confidential. It will be destroyed at the end of the study. You will have the opportunity to ask any questions at the beginning and at the end of the interview.

Investigators:

Principal investigator: Professor David M. Clark
(Department of Psychiatry, Warneford Hospital,
Oxford, OX3 7JX; Tel.: 01865 - 223 903)

Other key investigator: Hendrik Hinrichsen
(Oxford Clinical Psychology Training Course,
Warneford Hospital, Oxford, OX3 7JX; Tel.: 01865
- 226 374)

APPENDIX V

UNIVERSITY OF OXFORD

DEPARTMENT OF PSYCHIATRY



WARNEFORD HOSPITAL
OXFORD
OX3 7JX

TEL. (01865) 741717 ext. 26-

TEL. direct line (01865) 2264-

FAX. (01865) 793101

Name of Principal Investigator: Professor David M. Clark

Title: Anticipatory processing in social anxiety

Please circle your answers.

Have you read the information?

Yes / No

Have you had the opportunity to ask questions and discuss the study?

Yes / No

Have you received satisfactory answers to all your questions? **Yes / No**

Who has explained the study to you?

Do you understand that you are free to leave the study at any time and without having to give a reason for leaving?

Yes / No

Do you agree to take part in the study?

Yes / No

Signature

Date

NAME
(BLOCK LETTERS)

APPENDIX VI

SEMI-STRUCTURED INTERVIEW - ANTICIPATORY PROCESSING

Name: _____ Age: _____ Sex: **M** **F**

Group (please circle): **LOW-FNE** **HIGH-FNE** **SP**

Date: _____ / _____ / _____ Years in education: _____

ANTICIPATING SOCIAL SITUATIONS

In this interview I will ask you a few questions about social situations where you might be observed or evaluated by others, or when you are meeting people.

Do you sometimes get anxious in these social situations (where you might be observed or evaluated by others, or when you are meeting people)?

YES NO

Could you give me some examples of two recent occasions when this has happened to you?

1.

2.

When you anticipate a social situation, how often do you generally worry in advance about it before it happens? *FR-Scale*

Always / Very often / Often / Sometimes / Rarely / Never

How long do you usually worry in advance about it before it happens?

Is it usually minutes, hours, days or weeks? *(Show list below to participant and ask them to tick the one that best applies.)*

- not at all _____
- 10 - 20 mins _____
- 20 - 30 mins _____
- 30 - 60 mins _____
- 1 - 2 hours _____
- 2 - 5 hours _____
- 5 - 12 hours _____
- One day _____
- Several days _____
- A week or more _____

When you worry in advance about a social situation, how anxious do you usually get? *Scale 1*

A SPECIFIC SOCIAL SITUATION

Going back to the two recent examples you gave me earlier. Did you worry about any of these situations in advance?

YES

NO

If both: Which situation did you worry about more? (Circle situation)

1

2

Can you describe the situation? Where were you? Who was there? What were they / you doing? Check whether it constitutes a social situation as defined above.

How long did you worry in advance about that particular social situation?

not at all _____
10 - 20 mins _____
20 - 30 mins _____
30 - 60 mins _____
1 - 2 hours _____
2 - 5 hours _____
5 - 12 hours _____
One day _____
Several days _____
A week or more _____

When do you think you were most anxious in anticipation of that event?

_____ (Time)

How anxious were you at that time? Scale 1

**During the time when you were most worried, what were you thinking?
Was there something you were ruminating about?**

***F-up question:* What other things went through your mind when you were anticipating the situation?**

1.

2.

3.

4.

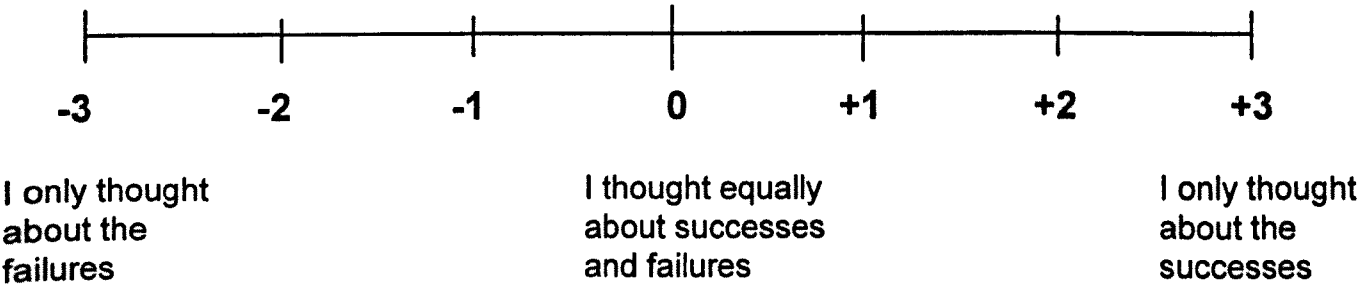
SUMMARISE the above points and check for accuracy!

PROCESS 1: RECOLLECTIONS OF PAST FAILURES

During the time when you were most worried about the event, did you notice yourself thinking about similar past social situations?

YES NO

If 'Yes': Did you think about your successes or your failures? Scale A



PROCESS 2: OBSERVER-PERSPECTIVE IMAGES

1. ANTICIPATORY IMAGERY

During the time when you were most worried about the event, did you have an image or picture going through your mind?

YES NO

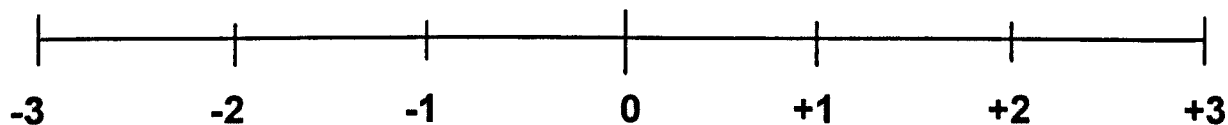
If, and only if, the answers are all "No", proceed to evoke the impression or felt sense: Sometimes people get an impression of how they appear, or how others might be reacting, even if they are not looking at them. Did that happen to you?

YES NO

If 'YES': Please evoke it (image or impression) now, with your eyes closed. Allow about 30 seconds. Have you got it now?

When they say 'YES' ask:-

Thinking about the image (or impression), is your predominant impression one of viewing the situation as if looking out through your own eyes, observing the details of what is going on around you, **OR** is the predominant impression one in which you are observing yourself, looking at yourself from an external point of view? *Scale B*



Entirely looking
through my eyes

Entirely observing
myself from an
external point
of view

Can you now describe the image? *Specific questions:* What can you see? What can you hear? What can you taste or smell? What is happening in the image? Why is this happening? What bodily sensations do you have? How do you feel emotionally? What is the worst thing about it?

If focused on appearance probe for details of posture, clothing, facial aspects, other parts of the body, general appearance, any change in size, age, voice characteristics, pronunciation etc.). *Account must be detailed enough for a film director to recreate the image. You might ask participants to use present tense.*

NB Write down every detail. Summarise all that the person has described to you, in detail, adding "Is that right?"

If somebody could observe this image, how distorted would they think it was in its sensory components (i.e. the visual and auditory aspects) compared to reality, on a 0 - 100 scale. Show Scale 2 and enter response in box below.

When was the image located in time? Did it reflect...?

What had happened in the past, what was happening at that moment, what would happen in the immediate future in that situation, or what would happen in the far future?

Past / Moment / Near future / Far future

Did the image involve seeing...?

Only yourself, only the others, yourself and the others, or no people?

Self / Others / Mixture of the two / No people

2. RECURRENT IMAGES AND MEMORIES

I would like to ask you a bit more about the image you just described.

Is that image one that you recurrently get in social situations, or did you just have it that one time?

Recurrent Not recurrent

If 'NOT recurrent': **Are any of the images that you get when anticipating a social situations recurrent ones, in that they always involve the same kinds of things?**

Yes No

What is your earliest recollection of having the thoughts / sensations / emotions / experiences reflected in the recurrent image you just described / the most common of these recurrent images?

Where were you? _____

How old were you? _____

What was happening in your life at the time?

How did you feel about yourself at the time? _____

Is there a particular memory that seems to be closely linked to the image?

Yes No

If so, do you think you could evoke it with your eyes closed, just as if it was happening now, and describe it to me now?

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

NB Write down every detail. Summarise all that the person has described to you, in detail, adding "Is that right?"

2. THOUGHTS OF ESCAPE AND AVOIDANCE

During the time when you were most worried about the event...

To what extent did you think about ways in which you could get out of the situation if you became anxious? *Show Scale 3 and enter response in box below.*

To what extent did you think about ways in which you could get out of the situation if you found the other people boring? *Show Scale 3 and enter response in box below.*

To what extent did you think about ways in which you could get out of having to go into the situation at all? *Show Scale 3 and enter response in box below.*

SUMMARISE COGNITIONS SO FAR! Then ask...

Is there anything else you thought about at that time that I haven't asked you about?

1.

2.

3.

PROCESS 3: BODILY SENSATIONS

During the time when you were most worried about the event...

Did you notice any bodily sensations?

YES

NO

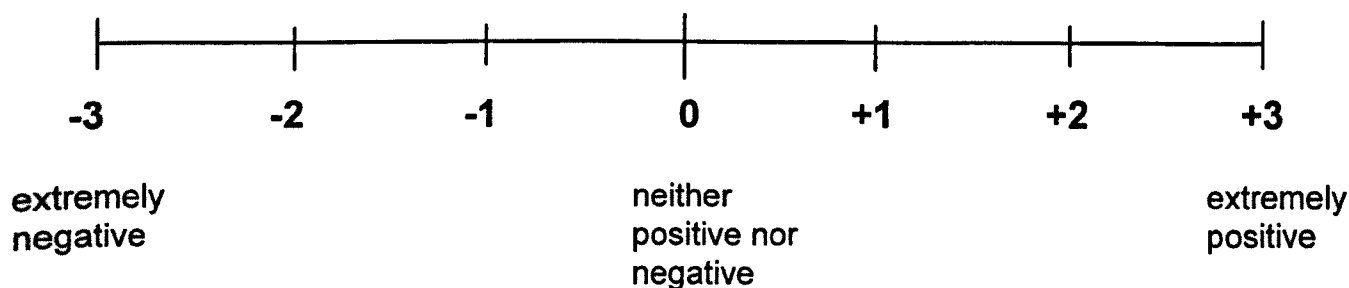
What bodily sensations did you notice? *(Show list below to participant and ask them to tick the one that best applies.)*

- Fast heartbeat _____
- Feeling hot _____
- Sweating _____
- Trembling or shaking _____
- Shortness of breath _____
- Nausea or upset stomach _____
- Feeling dizzy or faint _____
- Numbness or tingling _____
- Sweaty hands _____
- Chest pain or discomfort _____
- Choking or gagging feelings _____
- Feelings of suffocation _____
- Ringing in the ears _____
- Nervous twitches _____
- Dry mouth _____

- Any others sensations?

To what extent were you aware of your bodily sensations at the time?
Show Scale 3 and enter response in box below.

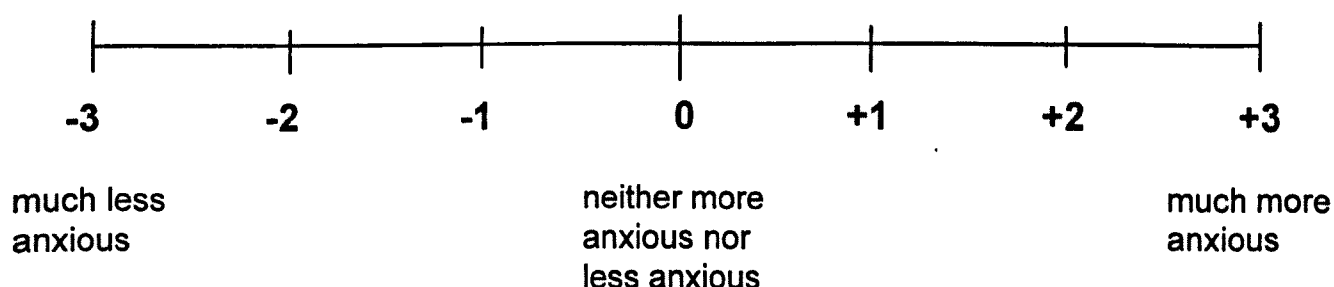
Did you view the bodily symptoms that you experienced at the time as positive or negative? Scale C



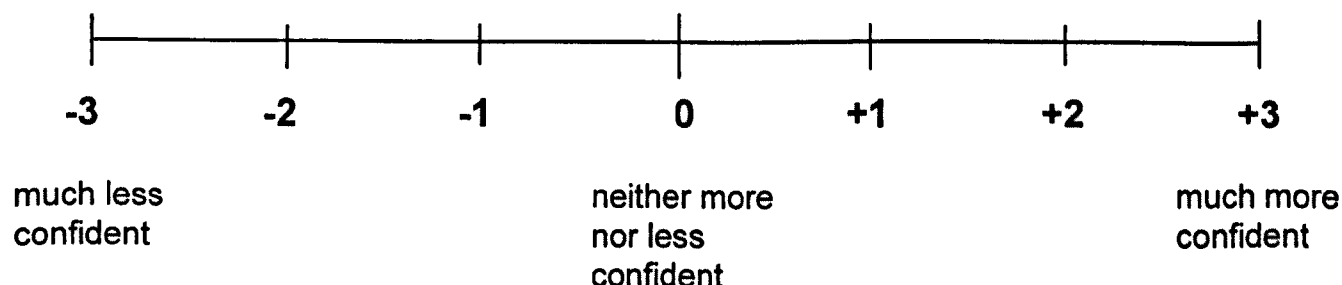
PROCESS 4: PERCEIVED EFFECTS OF ANTICIPATORY PROCESSING

Thinking about what you thought and did when anticipating this social situation (thoughts, memories, image or impression, bodily sensations), what effect do you think all this had on you?

Did it make you more or less anxious? Scale D

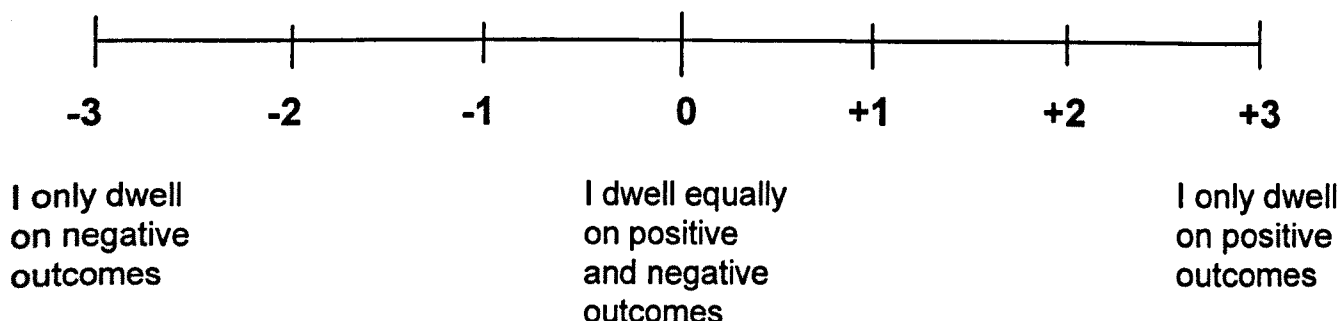


Did it make you feel more or less confident that you would be able to make a good impression? *Scale E*



5. GENERAL QUESTIONS

Thinking about what is going through your mind when you are thinking about social situations in general, what proportion of thoughts are usually about a bad outcome, and what proportion of thoughts are about a good outcome? *Scale F*



When you think about bad outcomes, to what extent have you found your predictions are correct? (*Show FR-Scale and circle*)

Always / Very often / Often / Sometimes / Rarely / Never

When you think about good outcomes, to what extent have you found your predictions are correct? (*Show FR-Scale and circle*)

Always / Very often / Often / Sometimes / Rarely / Never

APPENDIX VII

Inventory of Social Interactions (ISI)

SECTION ONE

Part I

Below is a list of different social situations. Please RATE how distressed you would be in each situation. Use the scale below:

0=not distressed
1=a little distressed
2=moderately distressed
3=very distressed
4=extremely distressed

- ___ Parties
- ___ Participating in meetings/classes
- ___ Speaking with unfamiliar people
- ___ Public speaking
- ___ Eating in public
- ___ Using public restrooms
- ___ Writing in public
- ___ Interacting with members of the opposite sex
- ___ Dating situations
- ___ Talking to persons in authority
- ___ Refusing unreasonable requests
- ___ Asking others for simple favors
- ___ Having a conversation with someone you don't know well
- ___ Other social situations (describe):

If you rated ALL of the social situations above as not distressful, all were given a rating of 0 (zero), you can stop at this point. Otherwise, please continue:

Part II

Do you think that the distress you feel in the social situations above is excessive and/or unreasonable? CIRCLE:

YES NO

Part III

How long have these social situations caused you distress? CHECK the appropriate length of time:

- ___ less than 6 months
- ___ between 6 months and 3 years
- ___ more than 3 years

SECTION TWO

Part I

Below is a list of physical sensations that people sometimes have in social situations. Please indicate whether or not you have had each sensation: CIRCLE Yes (Y) or No (N).

Part II

NEXT, for each sensation that you circled YES (Y), RATE how distressed you feel when you experience that sensation. Please write your rating in the space provided. Use the scale below.

0=not distressed
1=a little distressed
2=moderately distressed
3=very distressed
4=extremely distressed

Example:

☒ Y ☐ N 2 Goosebumps

- Y N ___ Fast heartbeat
- Y N ___ Sweating
- Y N ___ Trembling or shaking
- Y N ___ Shortness of breath
- Y N ___ Blushing
- Y N ___ Nausea or upset stomach
- Y N ___ Feeling dizzy or faint
- Y N ___ Stuttering or stammering
- Y N ___ Cracking voice
- Y N ___ Numbness or tingling
- Y N ___ Sweaty or clammy palms
- Y N ___ Chills or hot flashes
- Y N ___ Chest pain or discomfort
- Y N ___ Vertigo or tunnel vision
- Y N ___ Choking or gagging feelings
- Y N ___ Feelings of suffocation
- Y N ___ Ringing in the ears
- Y N ___ Nervous twitches
- Y N ___ Dry mouth
- Y N ___ Loss of voice

(PLEASE TURN THIS PAGE OVER)

Inventory of Social Interactions (ISI)

SECTION THREE

Please RATE the degree to which you avoid each of the following social situations. Use the scale below:

- 0=never avoid
- 1=rarely avoid
- 2=sometimes avoid
- 3=usually avoid
- 4=always avoid

- ___ Parties
- ___ Participating at meetings/class
- ___ Speaking with unfamiliar people
- ___ Public speaking
- ___ Eating in public
- ___ Using public restrooms
- ___ Writing in public
- ___ Interacting with members of the opposite sex
- ___ Dating situations
- ___ Talking to persons in authority
- ___ Refusing unreasonable requests
- ___ Asking others for simple favors
- ___ Having a conversation with someone you don't know well
- ___ Other social situation (if marked in Section 1)

SECTION FOUR

Please indicate below whether or not your distress and avoidance have interfered with any of the following areas in your life. CIRCLE Yes (Y) or No (N):

- Y N Work
- Y N Household chores and duties
- Y N Relationships with friends
- Y N Fun and leisure activities
- Y N School work
- Y N Relationships with your family
- Y N Sex Life
- Y N Satisfaction with life
- Y N Overall functioning

SECTION FIVE

Part I

Below is a list of different thoughts that people sometimes have in social situations. Please indicate whether or not you have any of these thoughts in social situations: CIRCLE Yes (Y) or No (N).

Part II

NEXT, for each thought that you circled YES (Y), RATE how distressed you feel when you experience that thought. Please write your ratings in the space provided. Use the scale below:

- 0=not distressed
- 1=a little distressed
- 2=moderately distressed
- 3=very distressed
- 4=extremely distressed

Example:

☒ N 2 I don't belong.

- Y N ___ I'm making a fool out of myself.
- Y N ___ People are criticizing me.
- Y N ___ I'm saying stupid things.
- Y N ___ No one here likes me.
- Y N ___ I look ugly or unattractive.
- Y N ___ I might humiliate myself.
- Y N ___ People can tell that I'm nervous.
- Y N ___ People think that I am stupid.
- Y N ___ I wish I were anywhere but here.
- Y N ___ I am too clumsy.
- Y N ___ I am boring or dull.
- Y N ___ He/She doesn't want to be talking to me.
- Y N ___ I hate being so nervous.
- Y N ___ I am a loser.
- Y N ___ People will make fun of me behind my back.
- Y N ___ I am the most nervous person here.
- Y N ___ I'm acting like such a jerk.
- Y N ___ I wish I could just disappear.
- Y N ___ He/She is looking at me funny.
- Y N ___ I don't fit in.

APPENDIX VIII

SOCSIT Questionnaire (from ISI)

Questionnaire 1

Name:

Date:

For each situation please circle a number to indicate the extent to which you usually worry about it in advance.

	Not at all	Slightly	Moderately	Very	Extremely
Parties	0	1	2	3	4
Participating in meetings/classes	0	1	2	3	4
Speaking with unfamiliar people	0	1	2	3	4
Public speaking	0	1	2	3	4
Eating in public	0	1	2	3	4
Using public restrooms	0	1	2	3	4
Writing in public	0	1	2	3	4
Interacting with members of the opposite sex	0	1	2	3	4
Dating situations	0	1	2	3	4
Talking to persons in authority	0	1	2	3	4
Refusing unreasonable requests	0	1	2	3	4
Asking others for simple favours	0	1	2	3	4
Having a conversation with someone you don't know well	0	1	2	3	4
Other specific social situations:					
_____	0	1	2	3	4
_____	0	1	2	3	4

APPENDIX IX

Name:.....Date:.....

Please circle the word which best describes how often you do the following things when you are anxious in or before a social situation.

Use alcohol to manage anxiety	Always	Often	Sometimes	Never
Try not to attract attention	Never	Sometimes	Often	Always
Make an effort to get your words right	Never	Sometimes	Often	Always
Check that you are coming across well	Always	Often	Sometimes	Never
Avoid eye contact	Never	Sometimes	Often	Always
Talk less	Always	Often	Sometimes	Never
Avoid asking questions	Always	Often	Sometimes	Never
Try to picture how you appear to others	Never	Sometimes	Often	Always
Grip cups or glasses tightly	Never	Sometimes	Often	Always
Position yourself so as not to be noticed	Always	Often	Sometimes	Never
Try to control shaking	Always	Often	Sometimes	Never
Choose clothes that will prevent or conceal sweating	Never	Sometimes	Often	Always
Wear clothes or makeup to hide blushing	Never	Sometimes	Often	Always
Rehearse sentences in your mind	Always	Often	Sometimes	Never
Censor what you are going to say	Always	Often	Sometimes	Never
Blank out or switch off mentally	Never	Sometimes	Often	Always
Avoid talking about yourself	Never	Sometimes	Often	Always
Keep still	Always	Often	Sometimes	Never
Ask lots of questions	Always	Often	Sometimes	Never
Think positive	Never	Sometimes	Often	Always
Stay on the edge of groups	Never	Sometimes	Often	Always
Avoid pauses in speech	Always	Often	Sometimes	Never
Hide your face	Never	Sometimes	Often	Always
Try to think about other things	Always	Often	Sometimes	Never
Talk more	Always	Often	Sometimes	Never
Try to act normal	Always	Often	Sometimes	Never
Try to keep tight control of your behaviour	Never	Sometimes	Often	Always
Make an effort to come across well	Always	Often	Sometimes	Never

APPENDIX X

Name:

Date:

Please circle the word which best describes how often you do the following things while *anticipating* a difficult social situation.

I use alcohol to manage anxiety	Never / Sometimes / Often / Always
I think about ways in which I could escape from the situation if it gets too embarrassing	Always / Often / Sometimes / Never
I try to picture how I will appear to others	Never / Sometimes / Often / Always
I rehearse conversations in my mind	Always / Often / Sometimes / Never
I try to think positive	Always / Often / Sometimes / Never
I make a conscious effort to distract myself from my anxious feelings	Never / Sometimes / Often / Always
I think about similar situations in which I have failed in the past	Always / Often / Sometimes / Never
I go over in detail what might happen	Never / Sometimes / Often / Always
I think about ways in which I could avoid having to face the situation	Never / Sometimes / Often / Always
I imagine the worst that could happen	Never / Sometimes / Often / Always
I make a conscious effort to not think about the situation	Always / Often / Sometimes / Never
I remind myself of things I should not do	Always / Often / Sometimes / Never

I try to plan what I am going to say	Never / Sometimes / Often / Always
I try to think of everything that could happen	Always / Often / Sometimes / Never
I think about ways in which I could put things right if I make a fool of myself	Always / Often / Sometimes / Never
I imagine the good things that could happen	Never / Sometimes / Often / Always
I think about similar situations when I have been successful in the past	Always / Often / Sometimes / Never
I ask others for reassurance	Always / Often / Sometimes / Never
I try to control my breathing	Never / Sometimes / Often / Always

APPENDIX XI

SOCIAL ATTITUDES QUESTIONNAIRE (REVISED)

This questionnaire lists different attitudes or beliefs which people sometimes hold. Read EACH statement carefully and decide how much you agree or disagree with each statement.

For each of the attitudes, show your answer by putting a circle round the words which **BEST DESCRIBE HOW YOU THINK**. Be sure to choose only one answer for each attitude. Because people are different, there is no right or wrong answer to these statements.

To decide whether a given attitude is typical of your way of looking at things, simply keep in mind what you are like **MOST OF THE TIME**.

I don't need everyone's approval

TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

I must not show signs of weakness to others

TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

If I make a mistake in a social situation people will reject me

TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

Everyone will stare at me and think I'm strange if I don't act normally

TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

I'm unlikeable

TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

Other people are more anxious than I am

TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

I'm different

TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

Other people are better at getting it right socially than me

TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

I must appear intelligent and witty

TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

I look as anxious as I feel

TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

If other people think I'm inferior, then I am

TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

I'm unacceptable						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
Anxiety is not a sign of weakness						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
Other people are more competent than I am						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
Others are more acceptable or likeable than me						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
My anxiety is obvious to other people						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
If someone doesn't like me, it is my fault						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
To be worthwhile, I don't need approval from other people						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
I must not let anyone see I am anxious						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
People think I am uninteresting						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
If others really get to know me, they won't like me						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
Unless I appear calm, cool and collected, people will reject me						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
I'm inferior						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
I'm vulnerable						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
Other people are less anxious than I am						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

People can see right through me, and see my weakness						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
I don't need to be liked by everyone						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
I'm a weird person						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
If people see I'm anxious, they will humiliate, ridicule and discount me						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
If I disagree with someone, they will think I am stupid or will reject me						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
I'm odd/peculiar						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
I'm important to other people						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
People see anxiety as a sign of weakness						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
I have to do things right to be accepted						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
Unless I am witty and interesting, people won't like me						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
If I keep up appearances, I might scrape by						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
My opinions mean nothing						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
When people see that I'm anxious, they see the real, inferior me						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE
I'm attractive						
TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

If people notice I am anxious they will think I am odd

TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

People are intolerant of signs of weakness

TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

If someone thought that I was inferior to them, I couldn't stand it

TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

If I am quiet, people will think I'm boring

TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

I'm inadequate

TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

If people see that I'm anxious, they will think I am weak or inferior

TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

I'm interesting

TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

If people look at me, it means they are thinking negative things about me

TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

I'm a boring person

TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

Even if people see my anxiety, it doesn't mean that I am inferior to them

TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

I must always live up to other people's expectations

TOTALLY	AGREE	AGREE		DISAGREE	DISAGREE	TOTALLY
AGREE	VERY MUCH	SLIGHTLY	NEUTRAL	SLIGHTLY	VERY MUCH	DISAGREE

APPENDIX XII

Name:

Date:

How much do you agree with the following statements?

1. *If I feel nervous before entering a social situation, other people will notice it.*

TOTALLY AGREE	AGREE VERY MUCH	AGREE SLIGHTLY	NEUTRAL	DISAGREE SLIGHTLY	DISAGREE VERY MUCH	TOTALLY DISAGREE
------------------	--------------------	-------------------	---------	----------------------	-----------------------	---------------------

2. *No matter how nervous I get before a social situation, I always feel confident that I will make a good impression.*

TOTALLY AGREE	AGREE VERY MUCH	AGREE SLIGHTLY	NEUTRAL	DISAGREE SLIGHTLY	DISAGREE VERY MUCH	TOTALLY DISAGREE
------------------	--------------------	-------------------	---------	----------------------	-----------------------	---------------------

3. *Other people are less nervous before social events than I am.*

TOTALLY AGREE	AGREE VERY MUCH	AGREE SLIGHTLY	NEUTRAL	DISAGREE SLIGHTLY	DISAGREE VERY MUCH	TOTALLY DISAGREE
------------------	--------------------	-------------------	---------	----------------------	-----------------------	---------------------

4. *I look as anxious as I feel.*

TOTALLY AGREE	AGREE VERY MUCH	AGREE SLIGHTLY	NEUTRAL	DISAGREE SLIGHTLY	DISAGREE VERY MUCH	TOTALLY DISAGREE
------------------	--------------------	-------------------	---------	----------------------	-----------------------	---------------------

5. *If people see that I'm anxious before a social event, they will humiliate, ridicule or discount me.*

TOTALLY AGREE	AGREE VERY MUCH	AGREE SLIGHTLY	NEUTRAL	DISAGREE SLIGHTLY	DISAGREE VERY MUCH	TOTALLY DISAGREE
------------------	--------------------	-------------------	---------	----------------------	-----------------------	---------------------

6. *If people see that I'm anxious before a social event, they will think I'm weak or inferior.*

TOTALLY AGREE	AGREE VERY MUCH	AGREE SLIGHTLY	NEUTRAL	DISAGREE SLIGHTLY	DISAGREE VERY MUCH	TOTALLY DISAGREE
------------------	--------------------	-------------------	---------	----------------------	-----------------------	---------------------

APPENDIX XIII

UNIVERSITY OF OXFORD

DEPARTMENT OF PSYCHIATRY



**WARNEFORD HOSPITAL
OXFORD
OX3 7JX**

TEL. (01865) 741717 ext. 26-

TEL. direct line (01865) 2264-

FAX. (01865) 793101

This study investigates the way in which different people think in a variety of social situations.

The study will involve filling in a number of questionnaires. You will also be asked to give two short speeches which will be videoed.

The whole experiment should take about 60 minutes.

You will be free to withdraw from the experiment at any time.

The information you provide will be treated as strictly confidential. It will be destroyed at the end of the study. You will have the opportunity to ask any questions at the beginning and at the end of the experiment.

Investigators:

Principal investigator: Professor David M. Clark
(Department of Psychiatry, Warneford Hospital,
Oxford, OX3 7JX; Tel.: 01865 - 223 903)

Other key investigator: Hendrik Hinrichsen
(Oxford Clinical Psychology Training Course,
Warneford Hospital, Oxford, OX3 7JX; Tel.: 01865
- 226 374)

APPENDIX XIV

Performance questionnaire

Please use this questionnaire to rate how you think the observers will rate how you appeared when they watch the video of the speech which you have just made. Circle the number on the scale which you feel reflects the observers' ratings.

	not at all				extremely			
hands shaking	1	2	3	4	5	6	7	8
confident	1	2	3	4	5	6	7	8
embarrassed	1	2	3	4	5	6	7	8
sweating	1	2	3	4	5	6	7	8
self-assured	1	2	3	4	5	6	7	8
blushing	1	2	3	4	5	6	7	8
relaxed	1	2	3	4	5	6	7	8
competent	1	2	3	4	5	6	7	8
uncomfortable	1	2	3	4	5	6	7	8
interesting	1	2	3	4	5	6	7	8
voice quivers	1	2	3	4	5	6	7	8
awkward	1	2	3	4	5	6	7	8
breathing heavily	1	2	3	4	5	6	7	8
anxious	1	2	3	4	5	6	7	8
fluent	1	2	3	4	5	6	7	8
no eye contact with camera	1	2	3	4	5	6	7	8
witty	1	2	3	4	5	6	7	8
left long gaps in speech	1	2	3	4	5	6	7	8

Please rate overall how anxious you think you *felt* during the speech:

anxious	1	2	3	4	5	6	7	8
---------	---	---	---	---	---	---	---	---

Please rate overall the quality of the speech:

	very poor				excellent			
success of speech	1	2	3	4	5	6	7	8

APPENDIX XV

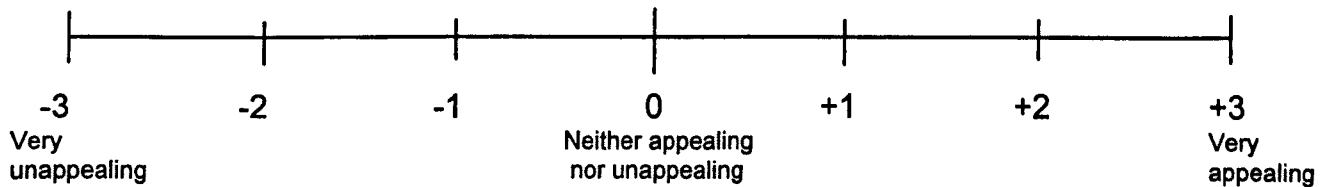
Insect Questionnaire

Name: _____

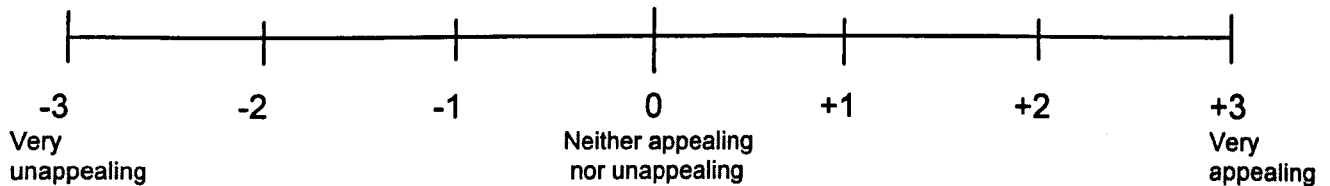
LADYBIRDS

Please indicate how appealing or unappealing you found the following aspects about the ladybirds by circling the appropriate number on the rating scale:

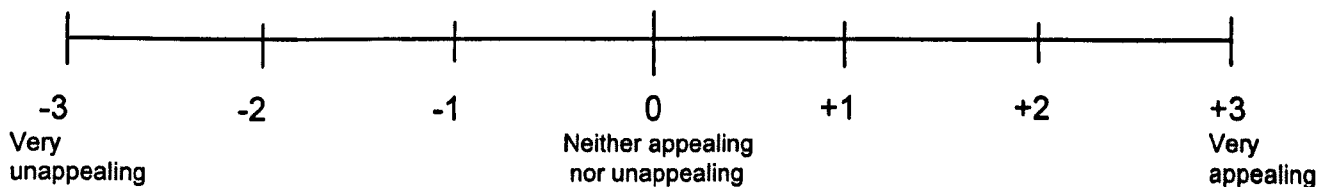
Body shape:



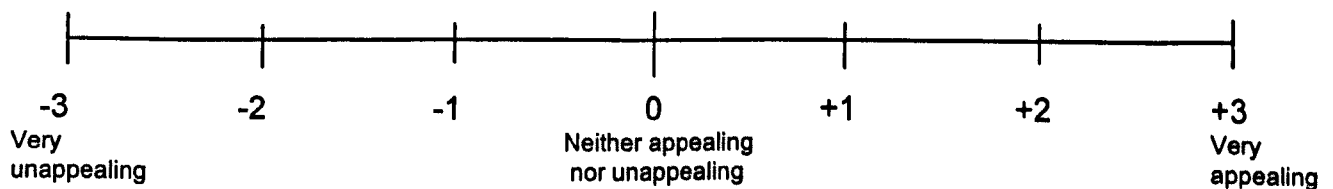
Colour:



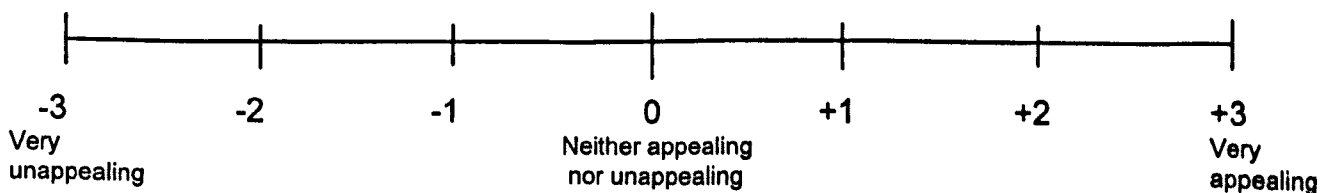
Legs:



Eyes:



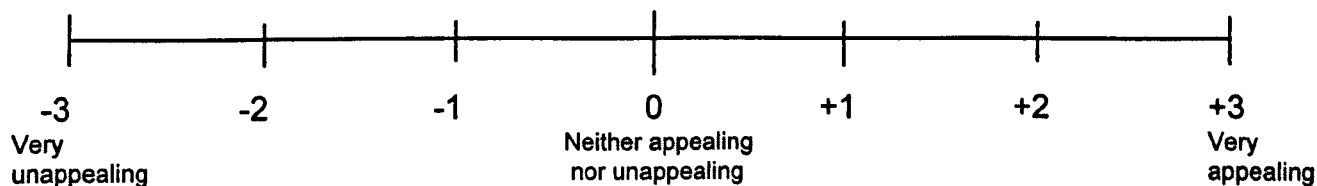
Movement:



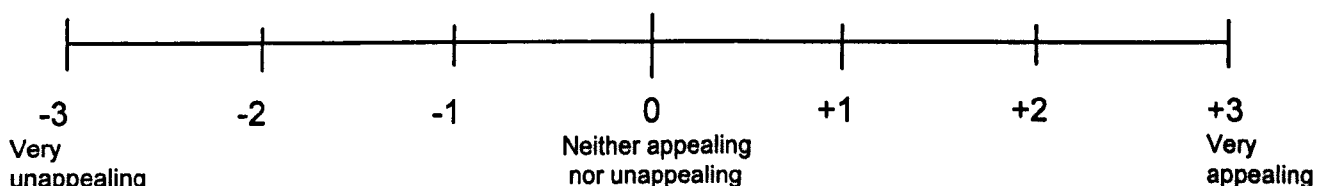
SNAILS

Please indicate how appealing or unappealing you found the following aspects about the snails by circling the appropriate number on the rating scale:

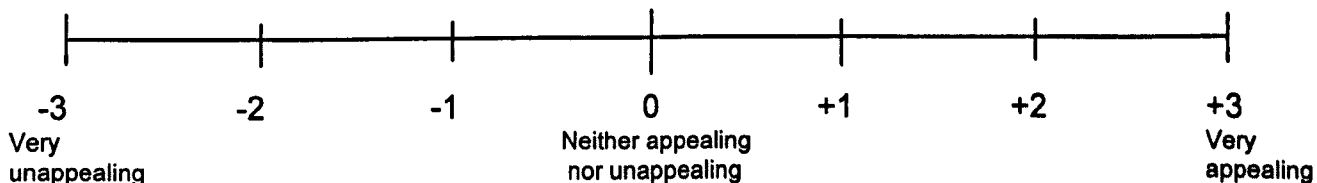
Body shape:



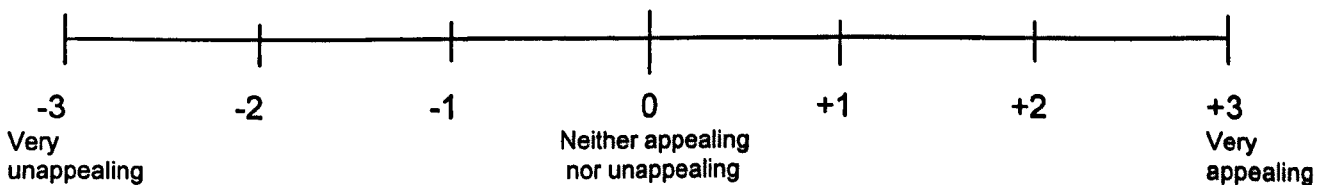
Colour:



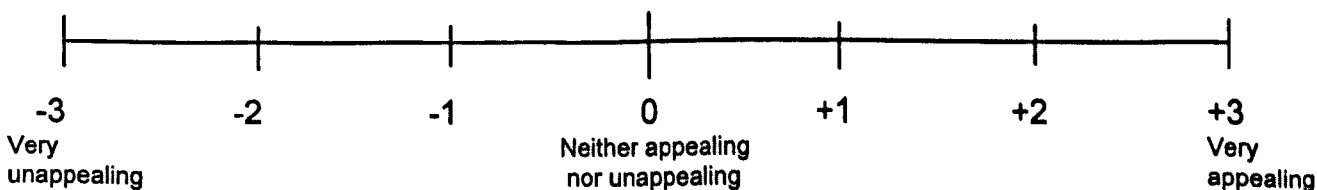
Shell:



Feelers:



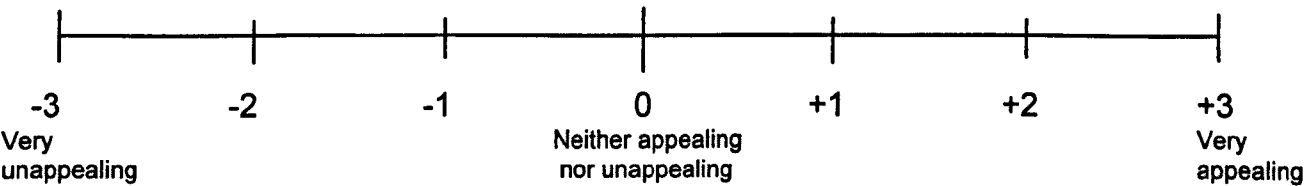
Movement:



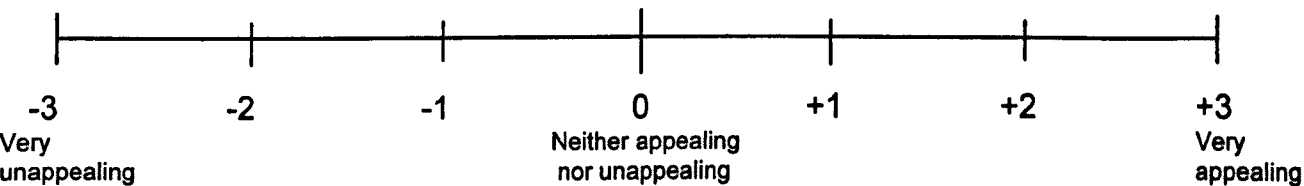
WASPS

Please indicate how appealing or unappealing you found the following aspects about the wasps by circling the appropriate number on the rating scale:

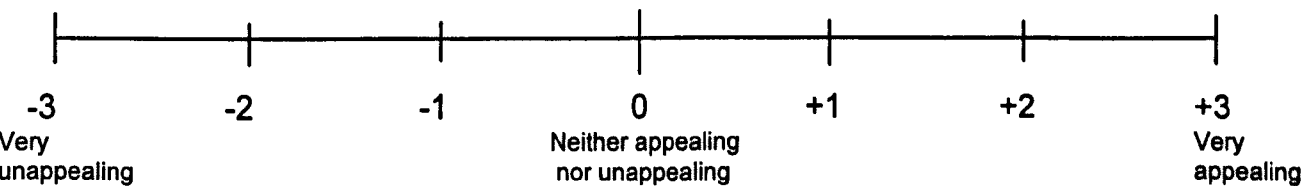
Body shape:



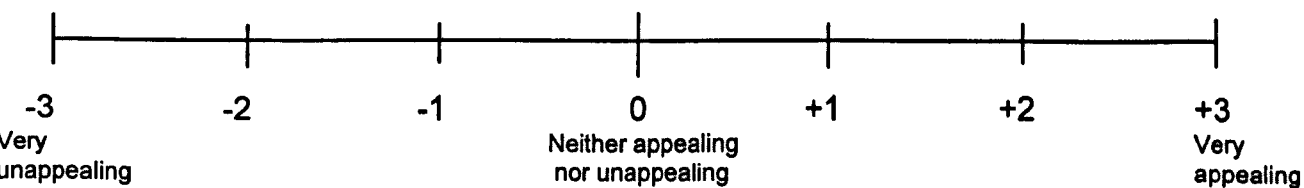
Colour:



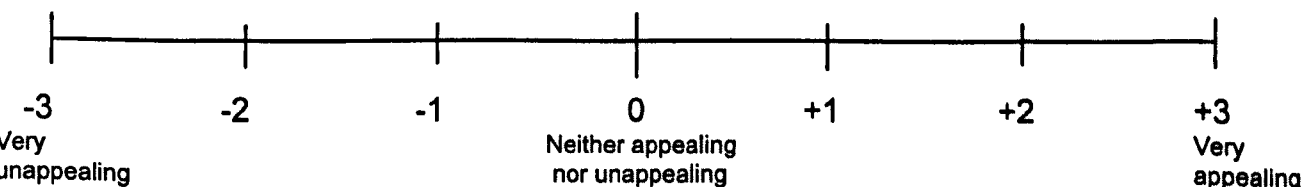
Legs:



Eyes:



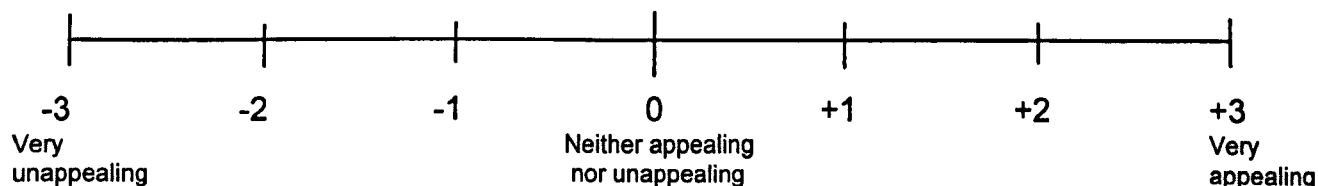
Movement:



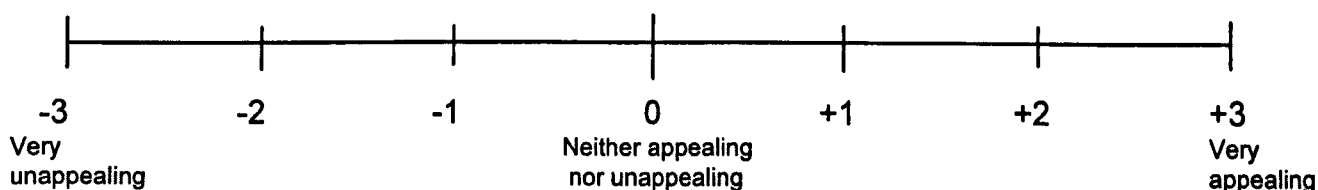
DUNG BEETLE

Please indicate how appealing or unappealing you found the following aspects about the dung beetle by circling the appropriate number on the rating scale:

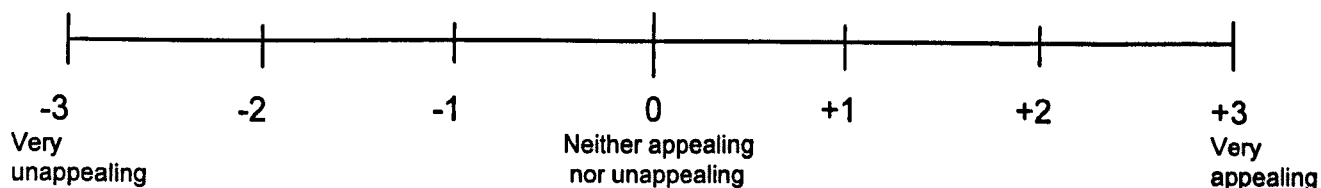
Body shape:



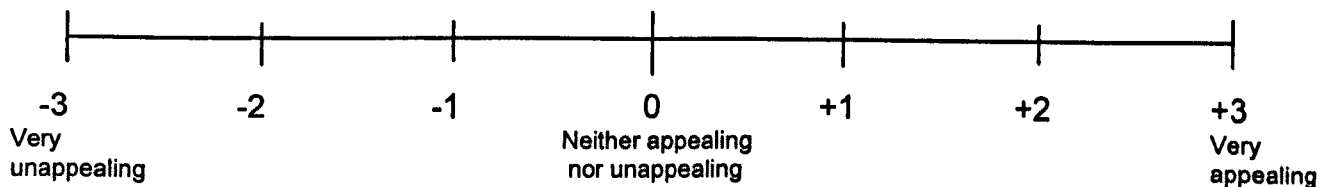
Colour:



Legs:



Eyes:



Movement:

